Getting That Meal Ticket

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Chapter 1
I come into the world

Although my memory is unexceptional , it is somewhat better than one ought to expect it to be. Some of my memory faculties are even remarkable . Given that all of my life people have paid me unneeded compliments , (one of the standard forms of self-congratulation), on several occasions my memory has even been qualified as prodigious. As I've matured I've quite lost the appetite for flattery, and it does not please me when people spout such nonsense about my endowments.

The French philosopher of science , Pierre Maurice Marie Duhem, (1861-1916) has gone on record [1] for having worried about such matters more than almost anyone else. He argues that two kinds of brain are distributed throughout the human race: the broad, weak brain and the strong, narrow brain. A blending of research, experience and prejudice had convinced him that most Englishmen have broad, weak brains. The French, so he claims, have strong, narrow brains - with the exception of Napoleon, whose intellectual cast is discussed at some length.

Distinguishing between these two types of brain is easily done: the attributes of the broad, weak brain may be likened to a strip of sticky fly-paper or a pot of book-binder's

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1**The Aim and Structure of Physical Theory; Pierre Duhem; Atheneum 1962,pg. 55**

glue: facts come into its vicinity and stick to its surface. They may remain there forever, never integrating themselves into any larger synthesis, yet never quite succeeding in breaking loose. In this way, bit by bit a vast repository of miscellaneous dead knowledge is accumulated.

Over the course of a lifetime the surface of a broad, weak mind comes to resemble a public monument covered by an accumulation of decades of bird shit, with nothing at all in its interior. The image is fortuitous: if one strokes such a mind it emits the kind of sound one expects to hear from a hollow bronze statue. Furthermore the knowledge gathered by the broad weak mind has no more relevance to the world than does the speck of shit left behind to the bird that left it.

The strong, narrow mind, the logical mind, the analytic-synthetic mind, the intellectual mind one might say, is the polar counterpart to the broad, weak mind. It shuns facts in the way nature abhors a vacuum. Much as repentance may suddenly wash over the heart of a sinner, it rids itself periodically of the slime-mold of deposited data. Buzzing like a bee through the sunny groves of knowledge it dallies not over each mystifying attraction, each exotic petal and leaf; rather does it spontaneous quintesse the ethereal juices which will contribute to the rich honey of theory. And if, through accident, ignorance or neglect, it may somehow accumulate a paralyzing burden of factual dross, the burden is summarily dumped in one good crap.

#10...

Although I admit the brilliance of Pierre Duhem's bifurcated brain hypothesis, he erred greatly in relating the two kinds of brain to inherent racial characteristics. In any case his opinions on French and English brains (with a few sour reflections on the Germans) , have little bearing on me. I am an American. One need not be anxious that I intend to unfurl the Stars and Stripes: this statement is being made merely by way of evidence. Son a Scotch-Irish mother, (with a possible admixture of Native American ancestry) and a Russian-Jewish father, I was born in 1935 in the little coal-mining town of Freewash, Pennsylvania. Local legend would have one believe that Freewash got its name sometime before World War I, because it had the only public baths in the region and offered eleven baths for the price of ten. For the sake of those who take stock in such idiocy , my birth took place beneath the sign of Capricorn, on January 3rd. In the astrology I've invented for my own use, my birth placed me under the protection of the radio galaxy Mersier 87: a most potent God.

Quite apart from my ethnic precursors, it can be categorically stated that I have a strong mind. In fact I have a very strong mind, which I'm well aware of, thank you, without the need to be continually reminded of it by everyone on every occasion (more by my enemies, perhaps ,than by my friends.) The presence of a strong mind indicates, following Professor Duhem, the compensating

handicap of narrowness. Consequently my memory cannot be very good.

Still, my memory is not too bad either, not bad at all. I can remember events in my life right down to my earliest moments; I even remember the experience of my birth! On the other hand there are also some surprisingly large gaps, such as not being able to recall anything that happened to me between the ages of 7 and 9.

In 1940 I astonished my mother by asking her if I'd been born prematurely. Questioning me closely she discovered that my recollections went back as far as my six months in the womb and my three months in the incubator. What made this revelation all the more astonishing was that my mother had never mentioned any of this to me; she has always exhibited a peculiar sense of shame about any feature of herself, whether in thought, body or conduct, that was not commonplace to the rock bottom level of utter banality. A premature birth would certainly have led her to regard herself as a freak of nature. This subject will reoccur several times throughout this narrative.

Given my mother's obsession with normalcy, it is remarkable that every one of her pregnancies has been accompanied with complications. Two years before I arrived she had a miscarriage. In 1942 she gave birth to twins , my siblings Sam and Aga . In 1946 the youngest child, Knut, was delivered by Cesarean section. Parenthetically Knut is an imbecile genie : at age seven he could multiply two one-

hundred digit numbers in his head. He is otherwise completely unremarkable, even stupid.

Too much weight should not be attached to my ability to remember the principal sensations of my birth. Most of them were reconstructed many years later by examining my physical characteristics in a mirror. In contrast I have always had a clear direct recollection of my life inside that incubator! It was a German model; I did not, of course, know this at the time. In 1952 a shock of recognition hit me while leafing through a catalogue of hospital equipment from the 40's. Even the initial segment of its serial number stands out in my mind: ...M ....1.....5.....5..... The rest escapes me.

After I was taken out of the incubator my memories disappear for 6 months. I remember nothing in fact before the day when , at the age of 9 months, I began spontaneously talking in complete sentences. In all likelihood I just said things like "Goo-goo" , and "Ma-Ma", like most babies. Yet I clearly recall the circumstances in which I uttered my first complete sentence. As it happened, my father was trying to bait a mousetrap. He was having a hell of a time with it. Invariably with each new attempt he would set the trap first, then try to introduce the bit of cheese. At the last moment the trap would spring loose and grab his fingers. Unable to bear the catastrophe a minute longer I sat up in my crib and cried: "Put the cheese in first! "

It is from this incident , I truly believe, that one can date the implacable hatred my father bears towards me to this very day, a hatred scarcely mitigated by our mutual progress towards maturity. After he'd gotten over his initial astonishment, he did put the cheese in first, then set the trap; it all went off without a hitch. Henceforth, however distasteful the fact might be, Mom and Dad were forced to acknowledge that they had a prodigy on their hands.

In most other respects as well my early development was unconventional. I was unable to walk a single step until age 3. For some reason walking has always been more of a problem to me than speaking. Potty-training is something I'd rather not go into. Suffice it to say that the experience was hazardous and grotesque for everyone concerned. That it was accomplished at all must be deemed little short of miraculous.

Learning to eat with knife, fork and spoon was made far more difficult than it should have been through my becoming so absorbed in the geometry and trigonometry of their shapes as to be incapable of associating them with any sort of utility. Somewhat similar difficulties arose with the tying of shoelaces: my fascination with Knot Theory dates from age 2.

Awareness of the fact of my own precocity, however, began at birth! Even in the incubator I knew I was special. Some people might find it incredible, but to this day I can recall staring into the vapid faces of the doctors and nurses

hovering over me , unable as of yet to shout out the monstrous realization that thundered in my consciousness: I'm better than you ! But how could a speechless infant have hoped to be able to communicate a concept beyond the comprehension of normal minds?

In the process of growing up I gradually learned to couch my innate arrogance under a thick layer of contrived humility; and by now in fact it does not appear to me that I am better than other people. But my breath fairly catches in my throat, with an admiration amounting to awe, every time I reflect upon how an infant scarce one month from the womb could have formulated so stupendous a conception, however infantile that conception might have been!

As I lay in a crib at home my reactions were much the same. Any time that Mom or Dad looked inside to see how I was getting along, the insolent thought screamed from my brain: "Don't you realize I'm better than you are !" Fixing them with eyes brimming with hostility, I inwardly raged : "Can't you numbskulls see that I came into this world for a special purpose? That, unlike the rest of the human race, I have a reason for being here ?! "

There has never been a time in my life when I did not have this sense of a unique mission. My earliest coherent thoughts are all connected with the impatience I felt at having to wait so long before this mission could be put into action. It must be admitted that, at the time, the precise character of this mission was hidden from me. It continues to

be so. In order to maintain my faith in it over the decades I've been obliged to periodically re-interpret every phase of my existence, right from the months in the incubator down to my present residence in the Municipal Men's Shelter on New York's Lower East Side. All of the phases of my life should be understood as adventures in the direction of what I believed, at various times, to be that mission so strongly sensed from the moment of my premature birth. Against all the evidence I still believe in it. The sense of a unique mission hovers in my consciousness in much the same way that the echo of the Primal Creation hovers in the 3° Kelvin background radiation left over from the instant of the Big Bang.

At age one I believed that the divine purpose that had led to my being set down on the third planet from the sun, consisted in being as obnoxious to all and sundry in my immediate environment as it is possible for one brat to be. Note that I was offensive through conviction only , never by character. It is important that I state this, in as much as I am, at heart, a good-natured and kindly soul. Despite this, in this earliest stage of my existence I believed myself under an obligation to make people hate me. Time has changed me into the timid, innocuous person of today. Even as a helpless infant there was a distinct malevolence in the strategies employed to get attention. Until I was finally house-broken I found it possible to time the acts of excretion and elimination so as to cause the maximum

amount of distress in the household. As a general rule these coincided with those moments when my great-aunt Alice, (deceased these five years, God rest her soul) picked me up to play with me, or while my mother was holding my rosy bare bottom in her naked palms. Looking back over my youthful intransigence, it is tempting to interpret my behavior as an instinctive rebellion against the standard methods of toilet training, particularly as practiced in Freewash at the time. Though perfectly capable of using all the standard facilities by age 1, I continued to make life odorous for my family until the age of 3.

One would imagine that an infant who is able to talk grammatical English at 9 months would not deign to resort to anything as low as bawling his lungs out to get what he wants. And so it was with me; the invention of a hundred insidious devices made crying quite unnecessary. It is doubtful that there are many households able to cope with being rudely awakened, at 2 AM night after night, by a shrill voice calling out with the lusty insistence of babies everywhere: "Help! Help! Come quickly! Hurry up! I'm dying, I'm dying! " One or both of my parents would come running into my bedroom, only to find that the urgency of my need amounted to little more than "I'm thirsty", " Change my diaper! " , or " I'm bored. Read to me!" My father soon got used to my tricks, but my mother always came rushing to my bedside.

#17...

Whereas most toddlers are constrained to whine "Gimme" when they want something , thus losing respect and the power to negotiate on equal terms, my standard tactic was to wait until there was somecompany present before saying " Give me (this or that thing) , if you don't want me to embarrass everybody telling what I know!"

The sudden inflammation of the Kantian Categories of the synthetic apriori, notably Extension and Cause and Effect, in the impressionable minds of infants , leads them, at a certain age , to question everything in sight. They do this by the insidious employment of the interrogative "Why?" to the point where it may literally drive their elders mad. Soon enough children come to understand that, although most things in the universe have no causal connections , yet, owing to severe limitations on the capacities of the human brain, they appear to have them. The demented repetition of "Why? " , so aggravating even in normal children, was refined by me into a veritable instrument of torture. Here is a typical exchange between my father and myself at that time. It shows why he had more than his share of reasons to hate me:

" Daddy: why am I me?"

" I also ask myself that question!"

" Why? Why do you also ask yourself that question?"

" Because then I would know how to deal with you."

" Why? Is it so important that you know how to deal with me?"

#18...

" Shut up and don't bother me."

" Why? Why shouldn't I bother you?"

" Because if you don't shut up, I'll spank you, that's why!"

" Why? What right do you have to spank me?" (At age 2! I really was a bright baby!)

Another:

"Daddy: why do you look older than me?"

" You should know that, you smart-ass! Because I was born before you were."

" Why? Why weren't you born after me?"

" I don't know. Ask your grandfather."

" Why? Maybe I should ask my grandmother?"

" All right: ask you grandmother. So what if she's dead? "

" Why?"

" Why? Why not?"

" Why why not?"

This one sticks in my mind as indicative of the little bastard I was:

"Daddy, why aren't you dead?"

" Why do you want me dead?"

"Why do you think my question means I want you dead?"

" Because it's obvious you don't like me."

" Why do you conclude from my asking you why you aren't dead already, that I don't like you ?"

#19...

" Okay: let me ask you a question: do you like me?"

" What's gotten over you that you have to ask a question like that?"

My poor father held his head in his hands for a moment before replying:

" Because in fact you don't like me."

" So? Then why do you ask me if I like you or not?"

" Because I, too, want to know why you don't like me?"

" Why?"

And so on, interminably. It should be clear by now that my father is Jewish. His name is Myron Cantor , and my name is Aleph Randal McNaughton-Cantor. My mother's maiden name is Jessica McNaughton. The middle name Randal was inserted because of Mom's fondness for the ballad, Where Have You Been, Lord Randal My Son ? Later on, during the time when I was working for my Ph.D., the family would kid me by calling me:
" Randal my son the doctor!" , a cute way of tying together my mixed ancestry.

This "Why" business made the household a living hell for several years; even the recollection of them is painful. Once, during one of their frequent quarrels, Dad railed at Mom:

" You'll do what I say because I'm the boss around here!"

" Why?" I piped up, "What evidence do you have to support the claim that you are the boss around here?"

#20...

I live today only because my mother restrained my father from killing me. I should add that it was not always my fault that I got into trouble. My father is not known for benevolence, even towards amiable beings like my brothers and sister. I've never seen him drunk, and I've often wondered if his being so might reveal a gentler side to his nature. Now that I've reached my middle 30's I can answer the question he put to me at age 14 months: Why don't you like me?

- Because you are an obnoxious, tyrannical, penny-pinching schmuck.

- Because you save used tooth-picks.

- Because you don't even know how to set a mouse-trap.

- Because you never change your socks .

-Because Mom throws you around like a sack of potatoes.

- Because you've got no self-respect.

- Because I hate you, that's all. I just hate you!

Having uttered this diatribe , let me just add that I don't in the least blame my father for hating me. I would have been a lousy son no matter what my parents were like . They should have left me in the incubator until
I reached 13. It's a mystery to me how anyone was able to stomach me; I should have had my head examined. At age two I set fire to the house. At age three I murdered Aloysius, our pet dog. Even today there are few regrets: that

dog was a real pest. But the method of execution continues to send chills up and down my spine: I threw it into the washing machine during the rinse cycle. Time wrought its changes. Nothing of what I was then resembles me in any way. Rather than touch a hair on the head of some dumb creature I'd sooner chop off my right arm.

Chapter 2
My Education

By age 3 I could read, write and talk circles around anyone in my vicinity. By the age of 5 it was no longer possible to hide my exceptional gifts from the world. Abnormally endowed with talents, brilliant and creative, yet I was abnormally vicious too, irrepressible and headstrong, though it was hoped that these traits could be corrected or, if necessary, as is the case with other monstrous geniuses(Wagner, Byron, Machiavelli and so on) discretely ignored for the greater good of humanity.

Imagine a 5-year old doing improvisations on the piano, solving the riddles in Lewis Carroll's treatises on Symbolic Logic, with a fair acquaintance with Latin and French and already launched onto the study Greek! Not the least of my accomplishments, (in that I had been forced to work against my natural bent), I could walk. To compensate for this deficiency, strenuous hikes are a standard feature of my lifestyle. Even in the context of my abortive suicide attempt in 1949 (to be discussed in its proper place). I walked the 3 miles to the bridge over the Wissahickon River because I thought the exercise would be good for me. Hiking, sadly, more or less exhausts the catalogue of my athletic abilities.

#23...

By the early 40's my parents realized that my education was a matter of great importance. Since the beginning of his career my father had been employed as a civil engineer with a steel mill in the neighborhood of Freewash. Now, for the sake of my education he gave up his post and took a low-paying job as a teacher at Mastbaum Tech, Philadelphia's vocational high school. Soon afterwards , at age 7, I was enrolled in a private school for precocious children associated with Haverford College : The Agape Institute .

Agape was the embodiment of the educational philosophies of a pair of German Quaker psychiatrists, Drs. Georg Baumknuppel and Giselle Zwicky. Refugees from Nazism, they'd met one another for the first time in the United States. A similar perspective on childhood learning had inspired them to team up together. The Agape Institute first opened up as an experimental project in education for precocious children financed by Haverford College. Still housed in some buildings adjacent to the campus, it had since become independent through grants from corporations and individuals. A scholarship program endowed by the college made it possible for Agape to pay the tuition for 20 children with exceptionally high IQ 's. The parents of all children enrolled at the Institute had to submit, on a regular basis, to physical and psychological examinations, in-depth psychiatric evaluations and a long battery of intellectual and cognitive tests.

#24...

The zeal which Dr. Baumknuppel and Fraulein Zwicky brought to their self-appointed task derived its impetus from a bizarre combination of antiquated and ultra-modern notions. As Freudians they were true believers of the most literal persuasion, although one often had the impression that their immersion in the writings of the Master had stopped with the case of Dora. Most remarkably, between the two of them they'd found a way to reconcile psycho-analytic dogma with the Society of Friend's theory of the Inner Light shining within everyone of us. From listening to them talk it was never clear to me whether the Divine Light plays like an Aurora Borealis above the polar ice of our sin-racked souls, or if it burns like the searchlights of Captain Nemo's submarine beneath the slimy turds of repressed desire in the ocean of the Unconscious. It is my impression that Dr. Baumknuppel maintained the former point of view, Fraulein Zwicky the latter. Still, one never knew which combination of these diametrically opposed dogmas of spiritual healing might be invoked to justify their odd behavior.

I remember Dr. Baumknuppel as a stocky, bushy-haired man in his early 50's. A laboratory smock was always draped over his suit, even on formal occasions. Save for a pair of long sideburns he was completely bald. He chain-smoked; even when addressing classes cigarettes were forever being lit and relit in his trembling, unsteady hands. The butts, as he lifted them to his lips, shook as if under the

effect of a strong wind and often slipped out of his fingers onto the floor. It could happen several times during a class period that Dr. Baumknuppel would get down to the floor on his hands and knees and, oblivious to our presence, forage around for them.

His uncertain mouth had a way of creaking open and shut like a door slipping on its hinges. His strongest facial feature lay in a pair of deeply sunken, servile, guilt-stricken though hardly friendly eyes. He also suffered from many compulsions, quirks and tics which made his presence unsettling after a short time. It was as if he were constantly reminding you that, for him at least, happiness was out of the question.

To give just one example: Baumknuppel was in the habit of repeatedly examining his left hand. The reason for this odd peculiarity was revealed to me one afternoon, as I was passing through the corridors of the Institute on my way to class . The door of the staff lounge was open and I could hear him lecturing to a seminar of psychology majors from Haverford College. To illustrate some point he'd been making about the importance of impressions acquired from early childhood, he told the following personal anecdote: he'd been brought up believing the old wives tale that children who masturbated grew a long, incriminating black hair on the palm of the hand most actively engaged. He went on to claim that he no longer believed such nonsense,

but anyone could see that his conditioned reflexes told quite another story.

He had many other tics as well, symptoms of numerous repressed anxieties, far too many, in fact, to be smoked away by two packs a day. He scratched his legs in the oddest way, snapped his fingers without warning, and terrified everyone by breaking out into sardonic laughter with no apparent cause. Much of the time he seemed not to hear or notice you when you were talking to him. He may have been a borderline psychotic, I don't know; certainly the word "neurotic" is too bland. Still, he did a competent job of running the Agape Institute, much better than I could have done given its insalubrious mix of hostile ideologies.

As an adult, I'm now able to view incidents and personalities from my past with a certain detachment. What was not fully understood at the time is now perfectly clear to me: Dr. Baumknuppel had a thing about little boys. Except for Fraulein Zwicky, to whom he was at least deferential, he never disguised his contempt for women. Surprisingly he was married. I never met his wife: her marriage to him must have been simply miserable. About 30 children of both sexes between the ages of 5 and 11 were enrolled at the Agape Institute . He paid little attention to the girls, yet his guilt-ridden preoccupation with the boys, myself among them, came out in many ways. It was something you couldn't escape. That he habitually patted our little behinds as we entered the school through the front doors each

morning , should already be taken as an indication that not all was right with him. His insistence on supervising our wee-wee, and the way in which thick clouds of embarrassment and cloying guilt would suddenly come pouring out of his eyes when they fixed themselves on us would appear to clinch the matter. However, it was primarily through his teaching methods, all, according to him, the direct application of some far-fetched scientific insight, that we gathered the confirming evidence that his interest in us had little to do with science.

Students in Baumknuppel's classes were encouraged to stand and speak up at any time they believed they'd received revelations from the indwelling spirit. Not every insight was condoned : they had to be of a certain kind. In a voice loud enough to command the general attention, we were expected to give utterance to whatever strong sexual impulse had just crossed our minds. Baumknuppel maintained that this pedagogical device combined the virtues of the Quaker Meeting with the Freudian Catharsis.

One would never know in advance how these messages from the repressed psyche might affect him. If one of the boys stood up and cried " I need to masturbate!", Baumknuppel generally allowed him to go to the lavatory and do his business. But if one of us said something like, " I want Dr. Baumknuppel to whip me across my behind !", he would suddenly go into a catatonic freeze as if a silver dart had transfixed his brain. As he pulled himself together he

might divest himself of a hideous groan which, its polluted overtones striking our ears, made us all feel as if we were facing a discharging truck exhaust. His whole body trembling violently in uncontrollable spasms, he would rush out of the classroom and not return for upwards of half an hour.

I never observed such reactions whenever one of the little girls shared her secret wishes with the community. Although Baumknuppel might show his annoyance he never lost his cool over a little girl. On the contrary, he could be severe with them, even puritanical. Encouraged by the spirit of freedom proclaimed in Dr. Baumknuppel's theories of education, Janice Connors, 7 at the time , jumped to her feet in class one day and said, " I want Dr. Baumknuppel to put his thing in my thing!"

A sinister silence fell over the classroom. Baumknuppel turned his bushy mop in her direction, glared her back down into her seat and snarled, " You base girl! Get to ze lavatory! Fraulein Zwicky vill meet you zere and vash your mout out mit soap!" Janice broke down crying and ran out of the room. After she'd gone , Baumknuppel assured us that he wasn't angry with her. He's merely applied the scientifically prescribed therapy for someone in her condition.

The situation quickly degenerated into farce. At least once in each hour one of the boys would stand up and bellow , "I want to lick Dr. Baumknuppel's thing!" It was the prelude to a hilarious five minutes or so in which we could watch him

climbing the walls. Sometimes sheer pandemonium reigned, with the poor doctor compulsively clutching his balls and banging his head against the blackboards as we shouted out the most obscene inventions our innocent young minds could dream up. Sometimes our sadism backfired when , pushed against the wall, and despite the non-violent doctrines of his professed Quakerism, he would race into the thick of us and lay about on all sides with a leather strap. The pitiful and distracted doctor would quickly be brought to heel by the appearance of the frail figure of Fraulein Zwicky in the doorway, trembling like a withered leaf at the end of a frosty autumn, her head bowed more in sorrow than in anger, her face crimson with shame.

In spite of all these things, Dr. Baumknuppel was a good teacher, provided he stuck to scientific subjects with neutral content like mathematics or chemistry. In fact he was the best mathematics teacher I've ever had. It is grudgingly conceded that my prodigious feats in this field when I entered early adolescence originated from insights gained during his lessons in arithmetic. Yet his methods of instruction were not without drawbacks. On occasion he had the annoying habit of conducting his entire lecture in German: it was another one of his pet theories that all the languages of man lay buried in the Collective Unconscious and merely needed some stimulation to bring them to the surface.

#30...

At four o'clock, before school let out for the day, there was the half-hour 'aggression session'. The entire student body was shuttled down to the Aggression Room , a small gym where a dozen or so punching bags hung suspended from the ceiling. Caricatures of the faces of Dr. Baumknuppel and Fraulein Zwicky, the rest of the faculty, our parents and several other authority figures towards whom we might be expected to feel a particular hatred, were painted on the surfaces of these bags. As we beat the shit out of them, Baumknuppel, Zwicky and the staff, watched us, notebooks at the ready, with undissimulated fascination.

Even in this context, Baumknuppel was not remiss in gratifying his strange appetites. To augment our level of violence he walked about the gym, slapping us heartily on our backsides, tweaking our noses, pulling our ears, even reaching into our trousers and squeezing our little balls! He never failed to let us know that there was a purpose behind these acts - to wit - "to bring to the surface all those animal instincts trapped beneath the constraints of so-called civilization"!

It happened just once, and never again before or afterwards , that all thirty of us, taking him at his word, jumped him and, despite our youth, kicked and mauled him so badly that he was away from the Institute for a week. Not a word was said about the incident after he returned. I suspect that he'd secretly approved of our spirit of initiative.

#31...

Sex Education was taught once a week, mercifully by Fraulein Zwicky . One might imagine that sex education wouldn't mean very much to children between the ages of 5 and 11. Of course we were precocious.

Our mean mental age was 15. There was no correlation between this and our emotional age, which must have scored far below that of comparable children of normal intelligence. Fraulein Zwicky had never had sex in her life and knew the shape of the naked male body only from textbooks. From her indoctrination in the Freudian theory of infantile sexuality she had drawn the conclusion that the sexual appetite rose sharply from birth to age four, reached a peak at around ten, and declined steadily thereafter to old age and death. Everything else was the result of false notions and over-stimulation derived from popular entertainment and advertising. Since we were all in the susceptible age category, every precaution had to be taken to keep us from the consequences of our own ignorance.

To the extent that she was less dirty-minded than Baumknuppel, Fraulein Zwicky was a relief. Yet there were difficulties in dealing with her as well. She was as inhibited as Baumknuppel was repressed, which is saying a great deal. I remember her as a gentle, prim woman in her middle thirties. Had it not be counter-indicated by her psychiatric training, she would have fed us on chocolates and sweets all day long. Although it never happened, I picture her taking us, one at a time, on her knees, and reading to us from The

Three Bears, Little Red Riding Hood and Alice in Wonderland. Alas, her studies had made her understand that there could be no subject more vital to the concerns of the very young than sex education. Accordingly she tightened her already prim little mouth and, with grim Teutonic determination, set herself to the task.

It might have helped a bit had she known something about her subject, yet her education and her upbringing were so much at war in this particular area that the mere spectacle of her confusion exhausted us, while her demonstrations of Valkyrie-like courage aroused nothing but terror.

One night, as a schoolboy prank, a group of us invaded her office and examined her personal diaries. A few of the students knew German and were able to explain their contents to the rest of us. It was by this means that I learned more than I would ever want to know about her. Before joining the Society of Friends in her early twenties Fraulein Zwicky had been given a strict orthodox Lutheran upbringing. Drinking, dancing, cards and all games were forbidden. The very word "sex" could not be mentioned, let alone anything associated with it. Whenever she let slip an indecent word or phrase, perhaps something picked up in the street, her father took her down to the family crypt and stroked her cheeks with the bones of her great-grandparents. She left this oppressive home environment for the first time at the age of 18, to enter Ingoldstadt

University with the intention of becoming a Lutheran medical missionary.

At the university she made new friends, toyed with scandalous ideas, even took up smoking for a semester. In her junior year at the urging of her professors she entered the program in psychiatry. No doubt they'd decided that the fact of her having no libido worth speaking off meant that there was little danger of its getting tangled up with that of her patients. In that same year she began the attending the Quaker meetings that had been set up by a circle of exchange students from England and the U.S. Fortunately for her, their help would prove to be invaluable in getting her out of Germany and over to Philadelphia when she had to flee in 1936.

Fraulein Zwicky was a pleasant person, not at all disagreeable or shrewish. Nor was she ugly, only very plain, painfully timid and rarely able to continue any conversation beyond the customary banalities.

She wore her hair in a tight bun , her thick-lensed glasses secured by a band of black elastic that went over her ears and disappeared under the bun. Her dresses always had too much stuff in them and were uniformly dour; a few more yards of cloth and she might have been taken for a nun. Her facial skin was so dry one could easily imagine it had always had wrinkles in it. She might well have kept a pet crow at home, so numerous were the footprints about her eyes. Her long nose protruded and her face drooped. Her posture was

erect yet her gait so stiff that one marveled at her not using a cane.

Don't misunderstand me: Fraulein Zwicky was a good-hearted woman! To this day I regard her with affection. Perhaps it didn't matter that, having no clear notion of what men looked like, she set about teaching us sex education. One could not escape the painful impression that she appeared to be using the effort involved in preparing and teaching this course as her personal means for coming to grips with this domain of forbidden knowledge. She never did get around to teaching us the proper names for the "things" she continually referred to, nor the uses to which they might be put. She kept inventing circumlocutions, persisting in her efforts as if laboring under a compulsion to dwell on a topic that was destined to remain forever inaccessible to her .

In her attempts to tell us about "how babies were made", or "how grown-ups are different from children", or "why boys are different from girls" , her emotional condition went through a number of predictable stages: scientific detachment, then a kind of wicked connivance, followed by embarrassment, and always ending up in helpless confusion. As the tension built up to the breaking point she would suddenly throw the whole burden onto our shoulders by barking out embarrassing questions that gave us lizard skin:

" Now, Jackie - do you have a - uh - "thing" between your legs?". The tone of the question indicated that, in her class at least, no nonsense was tolerated.

#35...

" Yes teacher", Jackie replied - "and its as long as my pinky!" . He held erect the little finger of his right hand. Fraulein Zwicky blushed:

" Very good, Jackie - you don't have to describe it. " Then, giving way to an irresistible afterthought : " Is it really as big as ... I mean as long as .. your little finger? Ohhhhh...." Then, dumbfounded : " Is it always that long?"

It was clear that she considered the erection a somewhat mystifying phenomenon:

" No teacher: sometimes it grows as long as this ! " Quite innocently Jackie pushed his middle finger up into the air in the classic "up yours " gesture.

Fraulein Zwicky blushed deep purple:

" Very good, Jackie. As big as that ! Ohhhhhh... That is fascinating! Utterly fascinating! You have no idea, children! I will have to tell the Dr. Baumknuppel about this! " Her voice reduced to a whisper, she asked again:

" Jackie - could you show us again how big it grows?" Jackie obediently pushed up his middle finger a second time. Once again Fraulein Zwicky blushed:

" Very good, Jackie.... Oh my! Oh my! " She pulled out a hard-backed notebook she'd brought over from Germany with a multicolored cover. As she jotted down her observations she whispered:

" As big as that ! "

Fraulein Zwicky was not a bad woman, but one can't deny that she suffered from indecent curiosity. One could

well surmise that much of the joy in her life was built around imagining what she could never allow herself to know. The most tedious, scarcely-to-be-endured moments in her sex education classes were the "demonstration lectures" . With one of the girls standing at attention before a fidgeting classroom Fraulein Zwicky, armed with a blackboard pointer, would move up and down the body of the subject explaining how babies were engendered, where they were conceived and how they were ejected. A fairly routine procedure one would think, yet for her it meant half an hour of torture, tedium and embarrassment, with numerous opportunities for ridicule of the sort that would occur naturally to a class of very bright and normally sadistic schoolchildren.

Her other class was on "culture" : literature, art and music. Here, even more than in sex education, she once more demonstrated her utter hopelessness as a teacher. She would not have been a good teacher in any subject. Her personal dilemma was of such a nature that she could not be expected to maintain discipline or order in a classroom. Then again, had she been able to exercise more authority it is doubtful we would have profited very much from her views about culture, based on misreadings of Freud's Civilization and Its Discontents , Theodore Reik's Listening With The Third Ear , Jung's divagations on creativity , Ernest Jones' essay Hamlet and Oedipus , and Edgar Allen Poe's description of how he wrote The Bells .

#37...

By combining this fruit cocktail of misconceptions Fraulein Zwicky had developed a philosophy of Art which can be expressed as a set of principles:

I. As all artistic productions are creative releases of the Unconscious, any work of art is as good as any other work of art. How dare anyone state that one person's unconscious is better than another's ?

II. Because civilization and its superstructures have completely repressed the natural savage in man, frankly ugly creations should actually be preferred over beautiful ones.

III. Because all art comes from the Unconscious, Art cannot be taught. No one can tell the Unconscious what to do.

None of this really mattered, if only she had just let each of us follow his or her own artistic bent. But that meddling old spinster - (no, I really can't allow myself to talk about her in those terms; she really was a sweet middle-aged lady) - all the same, she insisted on guiding our tender footsteps towards the full unveiling of the Divine Light, while at the same time achieving total liberation for our tyrannically repressed impulses through the unique capacities for 'venting' (one of her favored buzz-words) latent in the Creative Arts.

In other words: if one of her students painted a truly beautiful painting, or wrote a fine poem, or played a piece well on the piano, she would detect therein the effulgence

of the Divine Light. Yet if this same student painted an atrocity, or wrote some crude, stupid piece of doggerel, or hacked his way through a violin recital, it would be interpreted as the anguished expression, or desperate cry, of some deep-set neurosis stuck in the dungeon of the super-ego. Her philosophy of art was so broadly conceived that it could tolerate anything calling itself art, which is another way of saying that her confidence in her own opinions was so deficient that she dared not presume to criticize anyone.

In fact she did know a thing or two about music. One of the by-products of her German Lutheran background was a cultivated musical ear. She was perfectly capable of distinguishing between Beethoven and Perry Como. Unfortunately, a fanatical application of Freudian ideology to all aspects of reality had gone so far to undermine her sensibilities, that one might rattle a garbage can in her vicinity and she would fancy that she was hearing the glory of the Divine Light permeating through the turmoil of the repressed Unconscious.

About literature she knew next to nothing. She did not read a novel for pleasure until the age of 30. About painting she knew nothing at all. Here again the primitive obsessions of her arid emotional life burst upon us in unexpected ways: everywhere she turned she uncovered sexual symbolism. Points and sticks were always penises, hollows always vaginas. Of course she never called these things by their real

names : instead she referred to them as "boy things' " or "girl things" .

Stories, poetry and essays were plunged into the acid bath of Freudian hermeneutics, as over them she poured a murky catalogue of sex symbology both fabulous and sterile. Creative writing classes were turned into long ordeals of tedious interpretation, and generated the same atmosphere of obscene embarrassment, prudery and guilty voyeurism that characterized her sex education classes. Fraulein Zwicky ruined literature for me for decades: only recently have I been able to read a novel for enjoyment. And my appreciation of the graphic arts has been poisoned for life.

Between Dr. Baumknuppel and Fraulein Zwicky the Agape Institute was one hell of a school! Life between the ages of 5 and 7 was one prolonged ordeal of suffering. Along with the misery-filled days at the Agape Institute, came the added burden of long nights of serialized nightmares, cast in the form of episodes involving the same combinations of characters and events week after week. For nights on end I was being eaten alive by bears, tossed about in terrible storms which dashed me against cliffs, or pushed me down to the bottom of the ocean where I disintegrated under tons of water pressure. Over and over again I was roasted alive by monsters, electrocuted, torn to pieces in explosions, thrown out of airplanes, dragged in back of trucks, and many things of a similar nature . Leering faces with glittering eyes

hovered over me, injecting me with chemicals that seeped through my system and induced gruesome tortures. Buildings collapsed on top of me, rats crawled through my stomach and ate out my bowels. It was my Dark Ages.

In retrospect I've come to understand how this siege of manic-depressive psychosis originated from 3 sources: World War Two, Walt Disney movies and the Agape Institute.

The war only indirectly affected me, serving as the reservoir from which I drew forth the images that tormented me. WWII made no notable intrusion into my life. My father avoided the draft because his job was deemed vital to the national defense. At home there were always the newspapers, but I never read them. All I can remember from World War II is the death of Franklin Delano Roosevelt and the dropping of the A-bombs on Hiroshima and Nagasaki.

For the simple reason that the war had something to do with the outside world, its very existence was never mentioned at the Agape Institute. Its two directors believed that a hermetic environment was an absolute requirement for a child's mental development. Fortunately, despite the persistent efforts of its lawyers, the Institute never acquired the legal authority to remove us from our families and lock us up!

If only the same could be said for Walt Disney's cartoon comics and movies! Years ago I made a solemn oath on Newton's Principia that, if by some happenstance I ever become a father, my children will never be allowed to

watch Walt Disney movies. I don't recall any horror movie, not even Frankenstein Meets The Wolf-Man or King-Kong that had the effect on me of the forest-fire in Bambi . For weeks afterwards I fancied that whole districts of the city of Philadelphia were in flames. Lying awake at night I trembled with fear, hearing in every creak of the woodwork or rustle of water through the pipes, or seeing in the wisps of fog that rose up along the window-panes, the immanent approach of the conflagration.

Viewing Pinocchio for the first time at age 6 threatened for awhile to turn me into another Baumknuppel. For the next 4 years I was plagued by a nagging compulsion to twist my body about in a vain attempt to see my ass: telling the truth no more than ten percent of the time, I feared the spontaneous eruption of a donkey's tail. With equal frequency my hands sped up to cover my ears. Over and again I tapped my nose to push it back to normal size. Watching Pinocchio being swallowed by a whale so traumatized me that I was unable to go near a beach until my late teens. Even today swimming in the ocean has little appeal for me.

Yet the primary responsibility for this long period of emotional turmoil must be laid squarely on the doormat of the Agape Institute. Its' stifling atmosphere of cloying indecency, guilt-laden and ghoulish, combined with its conflicting philosophies and chronic disorganization, reduced our sensitive young minds to permanent states of cringing

terror. Firmly gripped in the tentacles of the two octopuses that ruled it we were little more than helpless prey.

We must now come to an incident which would have serious repercussions in later life. When I was seven years old, Dr. Baumknuppel attempted to rape me. He may or may not have succeeded: the reader will judge. Immediately afterwards I ran away, never to return. This and related incidents led to a criminal investigation and ultimately to the dissolution of the Agape Institute. In 1943 Dr. Baumknuppel was placed in an internment camp for suspicious Germans, where he was the guest of Uncle Sam until the end of the war. I would meet them again, much later at a crucial moment in my career.

These were the circumstances of the incident. Once each month every pupil enrolled at the Agape Institute had to endure an hour's psycho-analysis. Closeted in strict privacy with Dr. Baumknuppel, defenseless against his predation, we were intensively queried with ill-disguised lasciviousness about our infantile sex life. Mid-way through the session we were made to stretch out on a couch and free associate for half an hour as Baumknuppel, taking notes with his right hand, manipulated his balls with his left.

It was during one of these sessions that he attacked me. Lying on the couch, I had associated back to my infantile memories. When I began describing how, in the incubator, I stared at the doctors and nurses and recognized

that I was better than they were, Baumknuppel got very angry and said:

" You vas an insolent baby, veren't you ? Didn't you haf no respect for autority? "

To which I replied that at the time I was too young to know what authority looked like. The concept continued to cause me problems. Dr. Baumknuppel's eyes swelled with indignation and his face became congested:

" If I vas dere there you vould be trown into ze garbage can - alonk mit de slops!"

I realized that he was throwing some kind of psychiatrist's hostility tactic at me, so I kept my cool and said nothing. From the way he was scratching his legs and pulling his ears it was apparent that he was becoming more and more agitated. His fear transmitted to me and I began to gasp . Then he muttered the word "feces" and told me to use it as a basis for free-association.

I saw Dr. Baumknuppel sitting on a bed-pan, compulsively examining the palm of his left hand and defecating . As I described this mental picture he of course began a compulsive examination of his left hand. Then I saw Fraulein Zwicky carrying the bedpan into a classroom and forcing her students to eat its contents. Baumknuppel became furious and roared:

" You're making zat up! You von't get avay vit zis! " As he spoke he wacked himself several times on his back with a

ruler. After he'd calmed down he instructed me to free associate on the word, "penis" .

Right away my imagination conjured up one of the dinosaurs from the Disney movie Fantasia , belching hot volcanic lava from his huge penis. As I spoke the sweat stood out on my face. My own prick erected, bulging up through my corduroy trousers like a tent-pole.

That's when Baumknuppel reached out and grabbed it. I was ordered to keep free-associating. Now I saw a dinosaur doing a savage Pleistocene dance based on The Rite of Spring and biting his own penis . Totally unhinged Baumknuppel zipped open my fly, exposing my rosy juvenile prick. With guilty hesitation he began pulling it back and forth in his slimy paws.

I was horribly frightened and started to rise up off the couch. Baumknuppel pushed me down, placed his left hand over my face, tightened the grip of his right hand on my penis. Although he'd begun jerking it violently up and down, I was obliged to keep free-associating.

Now I was in the middle of a gigantic prehistoric earthquake. The ground split open and huge masturbating reptiles disappeared into the yawning chasms. Enervated to a condition of delirium I began to scream. In order to shut me up Baumknuppel stuffed the fingers of his left hand down my throat. Tears poured down his cheeks through tightly shut eyelids. The weak structure of his slavering lips totally collapsed as he whined piteously:

#45...

"...Please God! .....God! ..... Please God ...!... "

The door opened without warning. Inside stepped Fraulein Zwicky . When she saw what was happening she emitted a short scream; her hands ran to her cunt. She watched with dirty fascination for a few minutes before fainting. Baumknuppel let out a long groan and slid to the floor, drained of life, his head in his hands. I jumped off the couch and raced out of the building.

For the next two years my memory is a total blank. It is as if some guardian angel had dropped a cloud of amnesia over some great mass of pain. My parents say that I was picked up later that night wandering around Bryn Mawr, the town neighboring on Haverford, unaware of my surroundings.

According to them I didn't utter a single word all through those two years. Instead I did lots of reading. It was then also that I exhibited the first signs my remarkable abilities in mathematics. They also claim that we moved to California for 9 months, where Dad had been assigned by the government to work on some military project. Of this I remember nothing.

I know for a certainty that these were the formative years of my spiritual development. It was in them that the foundation was laid for everything I am today. How, you may well ask, can I be so sure about this when, although I can remember being in the incubator and staring at its serial

number, I can’t recall a single detail of 9 month's residence in California?

It's like asking the devoutly religious to justify their belief in the existence of an undetectable god. How is it that people in love will maintain, despite all evidences to the contrary, that the object of their desire cherishes a secret passion for them? How is it that writers, with nothing published after 40 years, continue to believe that they will win the Nobel Prize? What guarantee is there that anyone boarding an airplane will come out alive? It’s all a matter of faith.

Imagine dropping a pebble into a deep well on a dark, overcast night. The echo coming from the well indicates that something must be there, even though the water that is producing the sound cannot be seen. Barring strong indications to the contrary, one is as confident of the existence of the water as of anything else one imagines be true about the world.

It is like that with regards to my feelings about those two lost years.

If it is not in fact the case that the essential character of my psyche was forged in that time , then I am also being deceived in imagining that 2 plus 2 equals 4. [2]

From time to time I drop a psychological pebble into my subconscious. The echoing reply of struck water always

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2**Note that modern mathematics does allow for other alternatives under certain conditions .**

emerges from the period lying between ages 7 and 9. In the great crises of life, when I have had to bow my head before destiny and search for reasons for continuing my existence, the voice that comes to me is the one I would have had had I not be speechless at the time. There is a deep reserve of wisdom stored up in my Unconscious all these years, available only at those moments when it is really needed. For I must have asked all questions and given all answers at that age.

I am not alone in thinking this way. Everyone imagines that if he digs deep enough he will touch base with that part of his being which is infallible in all things. Though intellectually we may be Copernicans, emotionally we are all Ptolemaians. It is the same way with myself. The center of my universe is myself as a boy of seven.

Occasionally I will experiment with heroic regimens for tricking my Unconscious into revealing some small spark of light hidden in this period of darkness. I have literally wasted hours free-associating on the word "California". I've never come up with anything more than a patch of orange trees, and a couple of Mexicans. At one time I thought I might have encountered those Mexicans while we were out there, but after stabilizing their images to my inner eye, they always decompose into a composite of Wild West movie villains, Cesar Chavez and musicians from glamorous mariachi bands; they have as little to do with real Mexicans as the medieval caricature of the Jew has to do with the

appearance of my father. I've never been to California on my own and have no intention of going there. I know the trip would be useless.

More than once I've drawn a big "7" on a piece of cardboard with a Magic Marker. I place it in front of me and stare fixedly at it until my eyes are bloodshot and I can feel electric shocks shooting through my brain. All to no avail. Similar experiments with the number "8" have cost me an urgent visit to the eye doctor.

However I remember very well the moment and the day -July 19th, 1944 at 4:35 PM - when both speech and memory came back in a blinding flash. It created such joy in the household that no one thought to discipline me for what I'd said. I don't remember any of the circumstances that provoked it, nor why I should so suddenly have emerged out of my cocoon, (for I certainly didn't come out any butterfly). Yet something provoked me, after two years as an elective mute, to turn to my parents with the indignant query:

" So? Thanks to you, I'm messed up for life! What are you going to do about it? Nothing, I suppose! "

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Chapter 3
More Education

I was too smart for elementary school and at age 10, after a few months of home study, the Board of Education agreed to allow me to enter high school. It was first my extended exposure to the big world of humanity . It reminded me of my first taste of Philadelphia tap water , and I didn't like it. The human psyche has extraordinary flexibility, and gets used to anything.

My fellow students scorned me as an incorrigibly conceited brat. To me they were all savages and dumb brutes. It is understandable that we didn't get along. Their notions of what high school was all about were just about covered by dating and race riots, whereas at the time I entered the research that would culminate in my deservedly famous paper on the disintegration of the moons of Jupiter was well advanced. It was published in my junior year, and would be my passport to freedom. I was glad to get out of there.

High school was a dangerous place. Submerging a ten year old prodigy in its cannibalistic culture was sheer folly. The events in its classrooms on a typical day invite comparison with a deranged mind simultaneously afflicted by imbecility and frenzy. This week four career criminals in training would pull a girl into the boy's lavatory and gang-bang her. The following week some kid was pushed off the

roof. Every sports event was the pretext for a bloody riot. In my junior year members of a local teen-age gang ran over a teacher with an automobile. Finally the school began stationing cops in the corridors; this happened a few months before I left. That the school was not on the official list of the worst high schools in Philadelphia was only because it was not considered to be located in a "bad neighborhood" - ergo, one with a sizable black population.

I was a horrible kid but I was not a public menace. I might be happier now had I been a bit more vicious and stupid then. It is perhaps regrettable that the labors of my burgeoning genius took up all the free time I might otherwise have used to exteriorize the delinquent in me.

I didn't get along with my teachers either, though in their defense it must be admitted that they had to put up with a lot of bullying. Once in every term I would witness an assault on a teacher. Putting up with continual threats and abuse was accepted by them as part of their job description . Sometimes they were knifed, although I never saw this happening . Normally, one was led to believe , such things were customary in schools " in another part of the city" .

Sometimes they over-reacted. I was not present in the chemistry lab on the day that the teacher removed his belt and cracked out the front teeth of some young thug; but one afternoon, while in a class in mathematics, I watched an instructor break a blackboard pointer over the back of

another punk . This was wrong of course, and he was reprimanded. If he'd asked me I would have told him that mathematical skills can't be developed that way.

The noise-infested atmosphere stank with obscenities, curses, whistles, sniggers and cat-calls. Above our heads, in every direction flew spit-balls, rubber erasers and pieces of chalk . The very walls vibrated with insult. Every ten minutes or so, some student bounded out of his seat to pummel another one across the room. If a fight broke out in the corridors the classroom would be empty in a matter of seconds. And above the ruckus blood-curdling young throats brimming with hysteria and rude malevolence would scream murderous threats to all and sundry, which they had every intention of carrying out.

In those rare intervals in which there was a semblance of order, the climate of violence was supplanted by overpowering tedium, as each student took an eternity to reveal what he didn't know. The miseries of this toxic environment served only to increase my obstinacy and determination. It was a waste of time to prepare ; very quickly I stopped doing any of the official classroom assignments. Instead I doggedly pushed on with my research in Celestial Mechanics. It took 3 months to write up everything, then another month to complete the footnotes, research references and compile the bibliography.

When it was all finished it was given to my father. He tried to read it but found that he couldn't. He passed it to

some of the senior scientists at the Franklin Institute where it generated a lot of controversy. Ultimately it was recognized as a credible piece of work, and the Institute published it that summer. Within a month the Sargasso Sea of sloth and depravity that passes for high school in our society would be replaced by life imprisonment in the academic world . I was only 13.

Philadelphia's four principal institutions of higher learning are Temple University , the University of Pennsylvania, Zelosophic University and Philomathean College. They all fought like wildcats and coyotes to get me. Everything was offered me, from a full professorship upon completion of my studies, to guaranteed tenure at the age of 20, to the promise of a endowed chair specially drawn up in my name . Assessing these perks at their real worth took time, but by September of 1948 the choice had been narrowed down to Zelosophic U.

The university tailored a curriculum to my special needs: all studies outside the hard sciences would be at the undergraduate level; mathematics, physics and astronomy were at the graduate level. Upon completion of the requirements for the Bachelor's Degree, there would be a concurrent bestowal of a Ph.D. cum laude in mathematics.

It now seems advisable, even necessary, to back-track several years and present an account of my development as a mathematician through childhood up to my entrance into graduate school. Following this, there will be a brief

summary of the major ideas in my treatise predicting the disintegration of the moons of Jupiter. Some readers may find this discussion technical. They won't miss much by skipping to chapter 5.

I am convinced that, apart from the unfortunate victims of Alzheimer's disease , major brain damage, birth defects or genetic retardation, there are no innate differences in human intelligence. Healthy brains are all endowed with much the same equipment. Active versus inactive intelligence is quite another matter! Unquestionably there are enormous differences in the way people employ their intellectual capabilities. Many so-called talents and aptitudes are stimulated to growth by events in early life, enhanced by supportive environments or, conversely, crushed through neglect. In my case the sight of the serial number on my incubator during the three first months of life should not be dismissed as a possible causative element in the formation of my mathematical aptitudes.

Whatever the case may be , I'd invented the concept of the full zero in decimal notation before learning how to walk. This tool, indispensable to all arithemetical computation , mind you, had evolved slowly over 5 thousand years and was unknown in most of Europe until the early Renaissance. If the family legend that my mother's ancestry includes a few Native Americans is correct, I may be part Mayan: the Mayan were comfortable with the full zero long before it was understood anywhere else in the world.

#54...

"Zero " is very different from "Nothing" : "Zero " implies the existence of other numbers, "One" for example. In the same way, "No Credit" implies the existence of credit, "No Dice" the existence of dice, etc . The "Empty Set" , which mathematicians consider a legitimate kind of set, should also be included in "Nothing" . " Nothing" , in point of fact, is as immense as the universe. If one is in agreement, or at least in sympathy, with Bertrand Russell, who defined 2 as the class of all sets of 2 objects, one might argue that "Nothing" is the class of all negations of all identifiable objects: no credit, no dice, no panhandlers, no bananas, no idea, on and on.

Parmenides made the case thousands of years ago: anything that has "Being" cannot be objectified without positing the existence of its negation. Yet the absence of any specific entity is a vanishingly small piece of the bottomless well of "Nothing". The generosity of "Nothing" is such that in its ample construction one also finds "Not Everything". It is a great impropriety to claim that "Nothing exists", as this implies that "Nothing" implies the existence of "Something" , and is thereby a member of Nothing. Yet by the rules of Set Theory, no set can be a member of itself.

I can't remember any time during my childhood when I'm not been obsessed with the quest to construct a mental image of "Nothing". It took me years to realize that this would never happen. It is simple enough to picture the absence of specific objects, however something else always

pops up in its place. Sitting in front of the opened refrigerator, gazing at a bottle of 7-Up, I found that by remembering the look of the shelves when they are empty, I could mentally remove the bottle. Mentally removing the shelf exposed the back wall. Concentrating on the kitchen wall blocked out the refrigerator . Imagining how this might be knocked down, I stepped into the other rooms of the house, easily left by stepping outdoors. Then came the night sky, and the stars. With a great effort of imagination I projected myself into outer space, then, by removing the stars, into empty space. This obsessive game of mine could have continued indefinitely, were it not for the voice of my father yelling at me to close the refrigerator door or take responsibility for the electric bill.

Alas, empty space is not "Nothing". It has 3 dimensions . To a first approximation it accommodates all the theorems of Euclidean geometry. By the patient cultivation of my spatial imagination it eventually became possible for me to picture empty space as a relativistic Riemannian manifold! A fascinating object: not "Nothing" ! .

"Not Nothing? " Another idea to place into the category of all "Nothings" ! Yet the negation of "Nothing" is "Something" . Therefore "Something" is part of "Nothing" ! This should give one some idea of how all-inclusive "Nothing" is.

Hard and unforgiving experience has taught me that it is as impossible for the human mind to intuit the concept of

"Nothing" as it is to visualize "Infinity" . My convictions have not altered since my explicit formulation of this discovery at the age of 9. Much later I realized that, even had I succeeded in visualizing "Nothing" , I wouldn't have remembered what it had looked like; once one is thinking of "Nothing " one is of course thinking of something.

Frankly, there was something spiritual destructive about my all-enveloping quest for the being of nothingness. Sitting hunched over on my bed, my covers wrapped about me for security and warmth, I would stare at some innocuous spot on the wall. With a near psychotic obstinacy, I strained sensitive brain fibers, concentrating every microgram of psychic energy towards imagining that there was no wall in front of me, nothing beyond the wall, nothing on earth, no planet earth, nothing in my mind...

All such experiments ended in failure. Sometimes my persistence took me across the threshold of a mental crisis. When that happened, my precipitous descent into depression would render me incapable of functioning for days. I must have done irreparable harm to my psychic at that time. Had I gone on this fashion, it would have turned me into an incurable psychotic by puberty; only the deep conviction that I had important things to give to the world prevented this. By age 11 I'd abandoned all efforts at visualizing "Nothing". Clearly mankind was never destined to know what "Nothing" looks like.

"Infinity" posed fewer problems; while the 4th dimension was a snap! My earliest mental images of the 4th dimension were constructed at the Agape Institute. It was a Euclidean 4th dimension of course; I've never been able to visualize Einsteinian space-time. For several years it was possible for me to interpret every object in my visual range as the flat projection of a higher dimensional reality. Only with difficulty can I convey the thrill of being able, at will , to pop out of this universe and examine it dispassionately, like the surface of a map.

There was nothing mysterious in this accomplishment: my 4-dimensional reality was built directly out of materials from the world we normally inhabit. In much the same way that one can imagine a cube formed from 6 square pieces taken from the same piece of cardboard, my mind had developed the capacity to construct a 4-dimensional space from the elements in my surroundings. With maturity this ability has been lost, along with many other genetic endowments.

Often the results were strange indeed. In the privacy of my bedroom I constructed a hyper-room. My bed, all the furnishings, and the objects on them, were transmuted into the flat hyper-planes of hyper-furnishings! Another empty room could be constructed from the substance of a single chair! The very hollowness of this room was constructed from the substance of the chair. Though it stood, immobilized, on the rug covering my floor, yet it was also

simultaneously visible outside my windows, without ever having gone through any walls.

I inverted all the closets: their emptiness appeared on the outside, all other objects in the room became the inside, with my own body as the border between the two domains. From this construction I extracted hyper-objects, and hyper-conglomerations of objects from inside the closet, to be hung in a 4-dimensional hyper-room whose limits were defined by its hangers, hooks and shelves.

My fancy carried me along thus as I created a furniture hyper-jungle, both terrifying and beautiful, its lianas and creepers of tables and chairs dangling freely through my body, which , dispersed through the room like a cloud of ink suspended in a glass of water, had surrendered all pretense at rigidity, yet with no lose of connectedness.

A hyper-flower opened up, filling the entire room with its stamens and pistils, sending out boulder-shaped blocks of pollen . Under the pressure of my concentration it transmuted wondrously to a grove of banyan trees surrounded by a sea of thick creepers and vines, in whose grip all of the room's furnishings were entangled and crushed to bits. Each particle of dust careened about the room before swelling into a new piece of furniture, as my neighboring environment bubbled up into a wild, unruly froth of chairs, tables, planks , books, papers, pencils and pens, clothing, panes of glass, dancing all through hyper-

space in continuous hydrodynamic turbulence, all things passing freely through one another without collision.

Lord knows what would have happened to me had I continued on in this fashion! Fortunately these mental exercises could not be carried over into the classroom, where I had to cope with the sudden intrusions of the grating pederastic voice of Dr. Baumknuppel demanding: " Now , Rendel, vat bad zingz did you zee in your dreamz lest night? "

4-dimensional adumbrations of Dr. Baumknuppel were a challenge to my budding ability, which I undertook with extraordinary zeal. Through quite complicated algorithms involving homological algebra and topological surgery my mind was able to fabricate a hyper-Baumknuppel. It performed all of his obsessive tics simultaneously. His bizarre speech mannerisms lay frozen like a chunk of spittle emerging on the surface of his hyper-lips. Stuffing his whole body into his mouth, I inverted his skull so that his miasmic thoughts were diffused like a jet-black brain-slime over the entire room, pouring forth so fetid a stench that I had to plug up my mouth and nose.

Having developed this toolbox of 4-dimensional visualization techniques I then began applying them to other objects, including my father. It led me to many valuable insights into our complex, unhappy relationship. All the intricately tangled skeins of love and hate which imprisoned us like the exuded guts of a sea cucumber,

blossomed forth astonishingly into myriads of iridescent sigma-flowers on the volcanic lavalands of extra-galactic planets. Every injury, every wound, every grievance, every thoughtless act (on both sides) came out into the open, suspended in a plasma of psychic lymph and sinew, shedding bitter seeds of future retribution, so many ionized gamma galactic gravitons quantizing numberless hyper-fields with presentiments of future sorrow and woe.

Likewise every tenderness, every occasion for happiness and joy sprang, so many bleating force-fields of ecstasy, coursing potent and alive through the sidereal arteries pulsing polarized metachronic energies of faith and redemption , like so many mighty new-born neutron stars calved off the thighs of some bellowing Demigorgon on the Cosmic Boundary.

4-dimensional conceptualization, briefly summarized, enabled me to get through childhood without going bonkers. That this was destined to happen anyway at a much later date, is beside the point. Were it not for this early training in 4-dimensional visualization I might still be back in the asylum. It also lay the foundations for later achievements in mathematics .

Based on my personal experience I'm convinced that there is no substitute for those who would be geniuses in childhood to pushing one's mind to the brink . I'd already put arithmetic and algebra past me by the age of 6. From the great void between the ages of 7 and 9 I emerged with a

solid mastery of geometry, calculus, statistics and topology. Complex analysis, differential equations, modern logic and differential geometry, without being studied, but effortlessly absorbed by some unconscious process . Taken all in all, yours truly, Aleph McNaughton-Cantor was a fully professional mathematician by age 12! I immediately started looking around for difficult problems to solve.

This rough sketch of my mathematical development is best rounded out with a few general observations on the nature of mathematical genius. The difference between a person with an aptitude for mathematics and the rest of the mankind, is that he enjoys doing math , although to much of the rest of the world it tastes like castor oil. However, the difference between the normal person with mathematical aptitude and a mathematical genius, is that the former still finds mathematics hard work, while for the latter mathematics is the only subject that is easy. All things else that are of interest to normal human beings, politics, religion, love affairs, making money, sports, art, etc. are just about impossible for him to deal with.

A mathematical genius lives, eats, dreams, breathes mathematics. He will have no other mistress to him. One can go so far as to say that a mathematical genius is a mediocrity of a certain kind: he never does anything that does not come easily to him. He has no spiritual merit, as the very scope of his achievement derives from his refusal to strain himself in the least way. This must surely be

incomprehensible to people to whom the prospect of doing mathematics is about as welcome as a prolonged bout of constipation. However the mathematical genius feels exactly the same way about any endeavor except mathematics. One should not be surprised, therefore, at the historical tendency for mathematicians to do their greatest work in their teens and early 20's , exceptionally lazy phases in the normal life cycle of the human animal .

Given that mathematicians tend to be boring outside their chosen specialty, it comes as no surprise to learn that geniuses are insufferable bores to the N^{th} power, that they are exponentially boring! Heaven help the convict forced to spend a month in jail with a mathematical genius! Any civilized society must deem such proximity a form of cruel and unusual punishment.

A genius, any kind of genius, is like a machine built to do just one thing: all of its circuitry is wired to that end. What may be impossible for any other kind of machine is precisely the function for the performance of which it was brought into the world . Snip one connection and it auto-destructs, degenerating quickly into a block of metal covered over with silly knobs and switches, and wires running all over the place. The mathematical genius, far and above all other kinds of genius , is hopeless
in all things but his craft. In human relations in particular he is a real pain in the ass.

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Chapter 4

On the Disintegration
of the
Moons of Jupiter.

ABSTRACT

In 1947, my second year in high school, I discovered, by analyzing the pattern of wobbles of Jupiter's orbit, that its moons are not stable physical bodies, but exhibit a very slow resonance. Positive feedback has amplified these oscillations for a billion years or more. My calculations showed that Jupiter's moons will completely disintegrate in a few million years. These oscillations are not yet visible by telescope. For example, the variation in the equator of Ganymede is only a few centimeters per century. Within a thousand years they ought to be visible by telescopes of today's construction, such as Schmidt, Mt.Palomar or Hubble. Provided human beings are around to analyze the data.

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The inspiration for this work did not come from observational astronomy. As a mathematician I was attracted to the unsolved issues of the classical N-body problem of Celestial Mechanics. Eventually I was led to consider the subject in the greatest possible generality. This led me to invent the Abstract Theory of Solar Systems. Only its mathematical foundations interested me at first, but over the course of my invesrtigation I was drawn from that to concrete situations in our own solar system that could be computed as special cases of a wide rambling theory.

The following dissertation is abridged from an article prepared for Scientific American. As an aside, its publication was cancelled at the last minute because the magazine's editors were afraid that an

article predicting the breakup of the solar system could be so disturbing to its readership that subscriptions might be seriously compromised.

Let Λ be some solar system, otherwise unspecified, consisting of a sun S , planets, P_1, P_2 , ... and perhaps some moons, M_1 , M_2 , ... Asteroids and comets may be added as particular refinements, and nit-picking perfectionists may insist on solar winds, cosmic rays, life, and other irrelevancies. That's their bailiwick.

With each stellar object we associate a little vector space, actually a kind of finite *Hilbert Space* with its own metric and possibly complex coordinates; and equip each of them with a connection Γ . This turns the solar system into a gigantic unmanageable *fibre bundle* ϑ , with the Hilbert Spaces sticking up like candles on a birthday cake. One might also try to

play around with quaternions, the Hopf bundle and Dirac magnetic monopoles.[3]

Try to picture the states of Λ as a single point moving through ϑ ; if that proves impossible it's no great matter. Since we will only be talking about ϑ, we may be able to just drop the rest of the universe, U. (***That , in fact ϑ can withstand interference by U is not self-evident and must be proven as a theorem. Mathematicians who want to see the details can consult my thesis. It should still be in the files of the Mathematics Department at Zelosophic U, between the brown-bag lunch of the chairman's secretary and, if I remember correctly, the boot of some colleague, Wiegenlied Wissenschlaf perhaps.*** **)**

Next throw in a vacuum potential anti-energy μ, of negligible (but not zero) density almost

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3 **A certain Dr. Husak at Charles University in Prague has recently extended my model to one in which coordinates take values in an arbitrary Clifford algebra.**

everywhere suffused through a pure relativistic Robertson-Walker universe Δ.[4]

We define an *enucleated planetary simplex* Σ , to be a solar system far from equilibrium with the sun removed , and an enucleated planetary *chain-complex* Σ^* as a loosely homogeneous cluster of enucleated planetary simplexes .

Ideally: let Θ be a planet , (idealized to a point particle, naturally) traveling through a fluctuating potential well, with non-vanishing potential anti-energy almost everywhere, in a chain-complex Σ^* during the epochal split-second of cosmic inflation. The index ρ of Θ with respect to a flat fibration of non-standard orbits, is defined as the ratio of its observed red shift to that of its theoretically calculated bosonic dual.

4**It also works with the Kerr model and in anti-de Sitter space, but not in the Friedman model. No decision has been made on the Gödel model**

Definition: The bosonic dual of any material object is obtained by replacing all fermions with bosons and vice versa. [5]

Redefining the stellar main sequence based on the Herzsprung-Russell mass-luminosity relations, our own solar system and sun turn out to be anomalous. In fact, if the current figures on the mass, density and luminosity of the sun are introduced into the Fundamental Equation [6] , there ought to be an enormous hole of anti-matter in the vicinity of Venus. To date no-one has found anything of the kind .

Confronted with this insurmountable barrier I, like Max Planck at the turn of the century, boldly set out to replace the magnetic fields of suns with .367 or higher solar masses with huge collections of harmonic oscillators. Doing this, however, requires that the Schrödinger probability density (not only the

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5**There was a long and bitter precedence quarrel between myself and some astrophysicist in Fiji around the invention of this ingenious technique. I conceded defeat only because Hans Mengenlehre, then department chairman at Zelosophic U., convinced me that mathematical physics in Fiji needed all the help it could get.**

6**The Fundamental Equation has not been included in this account, which is for the general reader.**

values of the function per se) comes out as a complex number. Oh well: Feynman and Hawking have done similar things, and who are we to argue with them?

Worse still, the accompanying imaginary magnetic fields cannot be ignored in higher order perturbations. One must therefore force some sort of renormalization onto this glop, that is to say a crude approximation that looks like something recognizable.

One does this in the following way: switch off the magnetic field, diagonalize the energy-inertia tensor and compute eigenvalues. Plugged back into the fundamental equation, one obtains results not yet contradicted by anybody's experience.

The burning question still remains: is the luminosity relation as represented in our theory a complex number or a pure imaginary?

That it is , in fact, the latter, lay the basis for most of the surprising conclusions of my juvenile paper.

The resonance of the moons of Jupiter can be derived directly from this assumption! What, then , are the larger implications of an purely imaginary luminosity?

We first modify the standard Hertzsprung-Russell Mass-Luminosity relationship , which we rewrite in the form

F(I,M,L) = 0 , where

M is the mass ,

L the luminosity ,

I is the red shift of the bosonic dual.

F is a 4^{th}-order tensor which , to this day,has never been written down. It probably can't, which puts it in the company of most Schrödinger wave functions. The important point however is that F must become infinite if one of its arguments falls below the critical threshold. The proof is left as an exercise for the reader.

Although F is unknown, perhaps unknowable, it can be made to yield lots of qualitative information. One starts by making the simplifying assumption that F the, is an exponential of the form

$F(I,M,L)= e^{-(a+ib)t/c}\Psi e^{(a+ib)t/c} + (\varpi+1)(6+\Omega^2)$, where:

a, b are wave numbers

is the Schrödinger wave function

t = time

c = speed of light

ϖ is an anomalous hidden variable propagating an undetectable disturbance through the fibre bundle ϑ with infinite velocity. [7]

Speaking generally, the quantity ω always turns out to be too hot to handle, so whenever possible we suppress it. This in no way alters the infinite potential energy of imaginary stellar anti-matter at great distances. It is in fact a confirmation of same. For the same reason we suppress Ω .

The time dependence of $\mathbf{F}$ is of the highest importance . Indeed, with the elimination of ω and Ω , time is the only independent variable in $\mathbf{F}$.

$\mathbf{F}$ can now be expanded by *orthonormal-almost-quasi-everywhere-renormalizable-second-order - Elliptical Harmonics* . Inserting selected terms of the series as Lagrangian action under the umbrella of a Feynman Integral, then solving for extremals, one

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7**Private communication with David Bohm**

can study their pattern of intersections on a Poincaré surface. This narrows the class of permissible $\sum^*$ - chain complexes to those whose orbits cluster around chaotic attractors. This was the part that bogged me down for several months until I realized its irrelevance.

We now flatten the hypothesized solar system to a regular flimsy ring. Flimsy rings are fully treated by Krinskovitch in his epoch-making treatise of 1946, written just before he was sent to a labor camp in the Urals for advocating "theoretical counter-revolution". The necessary and sufficient condition for the enucleation of a flimsy ring is that its detachable substrate remain invariant under annihilation by the cross-section of the canonical co-bundle.

This gives a density of 3.2

By Gauss' Theorem ,the space integral can be transformed into a time integral. In this case the curl of the gauge connection constitutes an involution, not

an evolution. The curl of *this* curl is, however, smaller than anticipated, a result which is indeed curious.

At this point in my research I encountered a stumbling block that for a long time appeared insurmountable. If the flimsy ring cannot be enucleated, then the gradient of every semi-stable anti-matter field is consistent only with a nowhere dense anti-matter sun, which is absurd. I began to review what was known about stationary $\sum^*$- chain complexes to see if they possessed toroidal isotropy. The toroidal fibres, parametrized by the pull-back of the Riemannian metric through acausal time, will be called a global discourse .

It ought to be clear to the reader by now that this discourse is everywhere disconnected.

Along the way it occurred to me that, if the Cosmological Constant Λ were replaced by an almost periodic function ρ of minuscule amplitude, then all my problems were solved. The great advantage in using ρ is that it can be twiddled to fit any set of

data. So I adjusted ρ to generate the rings of Saturn. However they turned out to be enucleated rings, that is the rings of Saturn without Saturn in them! Putting Saturn back into the equations causes the whole universe to explode!

What was to be done? With our universe in assumed homeostasis, not very much. But was it not possible that Saturn was a removable singularity? Since Saturn has no privileged position in the solar system, it was but a small step from this assumption, to treating *all* the planets as removable singularities. I then removed them one by one until nothing was left. Then I reintroduced them one at a time . Whenever the formulae yielded infinite values I replaced them (arbitrarily) by finite ones. Utilizing this approach , only the Jupiterian singularity remained intractable .

Eventually it was realized that the only way to get around this anomaly was by making the assumption that Jupiter's moons were disintegrating

at an undetectable rate, far below present observational methods but calculable from the equations.

This saved the theory.

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Chapter 5
Initiation

My first semester at Zelosophic University was a happy one. To celebrate its acquisition of me the Mathematics Department arranged a reception, followed by dinner at the Faculty Club and a public lecture. The date, the last Thursday in September 1948 , and two weeks after the opening of the Fall Term, came fairly close to my Bar Mitzvah. In many ways the event had all the trappings of a religious initiation. It gave the students and faculty of Mathematics and related fields an opportunity to meet and talk with me, and get my autograph. The more aggressive could paw me. The department's political strategy was simply to get me drunk (with flattery of course; it was painfully obvious that I was underage) from 4 to 6, serve me up as dinner from 6:30 to 8, then digest me in a leisurely fashion from 8 to 9 during my public lecture on the esoteric mathematical techniques in the Jupiter paper.

In 1948, Dr. Hans Mengenlehre was chairman of Mathematics. There are only a few people associated with Zelosophic U. today who might remember him. In 1954 he was the victim of a bizarre tragedy. Someone in Electrical Engineering had invited him to examine Zelosophic's first UNIVAC computer. As he stooped into the dense arrays of vacuum tubes the tips of his ears came into contact with a handful of exposed wires, and a thin vertical strip of synapses in his brain were zapped. This tiny region of the

cortex happened to be the precise locus where all the fundamental mathematical operations take place.

He was given early retirement and a pension. At the going-away party, at which I was present , the department gave him an expensive chess set of carved ivory chess pieces and board, and an advance copy, autographed by all, of a Festschrift of research papers delivered in his honor, none of which he would ever again be able to understand. Soon afterwards Mengenlehre entered politics as a right-wing liberal conservative, whatever that means . He managed to get himself elected on the Republican ticket to a series of municipal offices, including a brief spell as mayor of Montclair, New Jersey, in all of which he made a real disgrace of himself. Scientists are trained to ask questions , politicians to give answers: the talent for doing both rarely cohabit the same soul.

Mengenlehre died in 1970. In 1948 he was still a robust man in his mid- 50's with a vigorous mind, active in research, admired by graduate students and colleagues alike. Though corpulent he was not obese. His facial folds collapsed comically into a hierarchy of jowls. He walked with slow wobbling steps as if along a trajectory determined by small random inputs. Standing at the blackboard and teaching, one sensed a benevolent shimmering about his brow.

His specialty was Sliver Homotopy, which I won't attempt to explain, except to say that the name

“Mengenlehre” is legendary among sliver topologists, that enclave of a dozen or so specialists around the world who work in this narrow sliver of science. In the 1940's nobody believed that Sliver Homotopy would ever have any practical applications.[8]

Hans Mengenlehre sheltered me under his wing from day zero-plus. No doubt he had made a personal commitment towards me; one might even say that he adopted me. He took complete charge of every aspect of my grooming , both in conduct and appearance, for the role of department prodigy. All introductions and interviews had to be arranged through him.

Generally speaking, Mengenlehre’s tutelage was invaluable. It was from him that I learned whom to court, whom to butter up, whom to avoid, whom to shun, whom to snub and whom to insult. He also did what he could to protect me from the hostility of those whose careers I was destined to wreck.

As we walked down Walnut Street in the direction of the Mellon Math-Physics Center, Hans drove home my need to understand the momentous importance of this reception for the success of my academic future . Many of the people I would be working with over the next four years , (some of whom I was encountering for the first time) , would be there; they will crop up frequently in this narrative. My principal

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8**One was discovered on April 3rd, 1967.**

task, in which I believe I acquitted myself well, was to convince the skeptics in the department and the university, that Mathematics had done the right thing in admitting me at such a tender age.

Arriving on the 7th floor of the building we walked through a dim and cheerless corridor to the graduate lounge. Although the reception was not scheduled to begin for the next half hour, the lounge was already filled with upwards of 60 people. Many were waltzing about the room with index fingers sententiously upstuck, others already carried cokes or martinis in hand. Dr. Mengenlehre, his right arm hugging my shoulders, cleared a road through this dense mass, stopping here and there to indicate some notable :

“That fellow over there ”- Hans pointed towards a bright-looking , introverted graduate student in a frayed sweater, standing all alone in a corner , bent double as from a sudden attack of gastro-enteritis, and drawing schematic diagrams in the air with the fingers of both hands - “ is Bob Boolean. He’ll be getting his Ph.D. in June. Before you showed up , his was considered the most promising young mind in the department. He’s 22 . Don’t be upset if he comes off as reserved, even unfriendly. Don’t worry about that. Don’t be pushy, don’t show off what you know. Ask him a few questions to show you respect his erudition. If he asks you for information, act as if the subject is above your head. A little calculated hypocrisy never hurt anyone. Later on you

can show your stuff. I'm convinced that things will work out splendidly between the two of you."

He sighed, as if about to bring up a subject that had been pre-occupying him for some time :
"I'd be very happy if I could get the two of you to collaborate. In fact there's a research project I have in mind… " , boredom was written all over my juvenile brow, "Now; those two over there" - Mengenlehre directed my attention to a bearded , humorless individual, middle-aged and heavyset, with very high forehead and thick spectacles, talking to an elderly scholar with bad posture, dark circles around his eyes, a compulsive squint and creepy gestures -

"That's Professor Wiegenlied Wissenschlaf" (This was the heavy-set man, now slicing the air with his forefinger like a saw going through thick cheese)," and that's Professor Régard Nombril . Nombril is very distinguished and I've put him in charge of your program of studies. He plays the violin abominably and I fear you may find yourself obliged to play duets with him once in awhile. Don't interpret it as an imposition; you're not here to study music. Hang onto his every word whenever he talks mathematics. He's in touch with modern developments in a dozen fields, and the world's leading authority on functional analysis over uncooperative manifolds. You may not yet know what an uncooperative manifold is , but if you stay with him you'll learn more about them than you'll ever need to know."

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“An uncooperative manifold”, I chirped, “is a space that satisfies all the axioms for a manifold but which, in all other respects, disappoints every expectation.”

“Good boy!” Mengenlehre beamed, “ Soon they’ll be giving you my job!” He went on,

“ At the risk of being indiscreet, Wiegenlied shot his bolt about 15 years ago. Since then his research, (and he’d be the first to admit it), hasn’t been worth a damn . But he knows a lot and he’s a competent teacher, so we keep him on. We do feel some responsibility towards him: 80% of all mathematicians are finished in their mid-20’s. That doesn’t mean they ought to beg in the streets.”

As he was rounding off this bit of wisdom, something caught Hans’ eye that seemed to cause him intense discomfort. Speaking out of the corner of his mouth, he asked me to twist my neck towards the door. I saw an aged, kindly looking man, hunched and gray-haired, dressed in ill-fitting clothing and a yarmulka, who stumbled as he walked and communicated a kind of eager embracing warmth. He'd just entered the lounge and was pushing his way through the crowds to get to us.

Mengenlehre glowered :

“The old geezer is Dr. Alter Buba; you’re going to have to shake hands with him in a moment . He started his career as a rabbi. At the height of the Russian Revolution he returned to - I believe - Smolensk University – to get himself a degree in mathematics. I suppose I’m being kind in calling

him a mystic. It's considered good form in this department to insult him because I can't get the university to kick him out. You must understand, Aleph" , his eye- contact was perhaps a bit forced but tolerably square ,

" The academic world judges a department by its productivity - that is to say, its research - and we can't afford to carry dead wood."

Dr. Buba was practically on top of us by now, so Dr. Mengenlehre cut short his defamation to introduce us:

" Aleph McNaughton Cantor , I' d like you to meet Dr. Alter Buba, one of the - er – 'grand old veterans' - of the mathematics department."

Buba , jump-starting on his cue, grabbed my cheeks between his leathern hands - (one could see that in Russia he'd lived a life of hard toil) - rocked my head back and forth until I felt my spinal vertebrae in danger of breaking , and burbled:

" Aleph! Aleph! Vat a treasure you are! Vat a leetle jewel! A
gift vrom Gott , that' s vat you are!... Just imagine it! Zat ve, in our leettle methematics departiment at Zelosophic University, ve have been blesst vith an Einshtein, a Gauss, enother , enother .... Archimaydes ! A mitzvah ! ..Oh mymymymymymy.... !!"

Crap or get off the pot! I wrenched my head free of his grasp :

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“ Don’t hock mir a chainick, tzaydah!”, I barked , “ Say your piece!”

Buba clasped his powerful hands together, gazed heavenwards and with radiant face praised the Lord:

“ Let us give thenks to Abraham, to Yitzhak, to Yacob, to Moishe who in tze ancient days rescued us from bondage in ze lent of Egypt, ent to Gott who, as he did vit David, heth anointed ze kopf from zis leettle boychick , Aleph, vith tchenius ! Just a leetle boy, just a schmendrick , but he can enswer ze qvestions vat even Gelvois zidn’t know how to esk! Zat I should lif to see zis day! Zat I may be grented just a few more years to hear his name rezound around ze verlt ! Our own leettle tchenius ! Oh mymymymymymymymy… !!! ”

I mean, who was the meshugah around here? This alte cocker was dangerous. He paused long enough for me to consider my reply, and for some reason it occurred to me that he wasn’t really foolish, he just should never have gone into mathematics. He would have done famously as a den father for the children of traveling circus artists. Rather unsure of myself, I replied :

“Uh..Rebbe... would you mind repeating all of that, slowly?”

For a brief moment, Buba’s face covered over with an ugly scowl. Then he laughed, broke out into a broad grin and said:

“Aleph, Vat ken you expect from en olt chazan ? I don’t know vat I’m sayink enymore. Good luck, good luck.” He shook my hand with maddening vigor then disappeared back into the crowd.

Mengenlehre heaved an exaggerated sigh of relief:

“ You see what I mean?”

“ Oh I don’t know - ” I remained non-committal. I would make my own alliances in the Mathematics wars. In a strange way I liked the rebbe . Not having any cynicism to hide, he didn't try to disguise it.

“ I’d like to hear some of his stories about trench warfare around Smolensk.”

Suddenly we were encircled by a crowd of students and faculty . There was a predatory eagerness in the way they all stared at me. It was my first taste of fame and I decided that I liked it. Since first setting foot on this pestilential planet there had been no acknowledgment of what was due to me. Never before had so many people smart enough to know I was special come together in one place.

Bob Boolean was not among them. Craning my neck and standing on tip-toe, I saw him still in that same odd posture, more dejected if anything , his mind totally absorbed in something not of this world. The pretzel figures he drew with both hands had grown unbelievably complicated. He looked like someone trying to claw himself out from the belly of a boa constrictor . My conjecture,

which turned out to be correct, was that his mind would be the most interesting I was likely to encounter in this department.

Dr. Mengenlehre appeared to have concluded that our audience had reached some kind of critical mass, for he suddenly started lecturing at me in a kind of falsetto sing-song reminiscent of Chinese Opera. His voice was so insistent that everyone, even the custodial staff who had already begun to clean up , stopped to listen to him. In the service of the great cause of the advancement of Science , Hans was not adverse embarrassing me as much as possible:

“Now Aleph, in your treatise on certain peripheral phenomena derivable from the laws of Celestial Mechanics, which he wrote while still in junior high-school I would like to remind everybody! , you make frequent references to the unsolved 3-Body Problem. Somewhere, if I remember correctly, you make the comment that the world awaits exact solutions in closed form of certain special cases, before further advances in certain aspects of your research can be made . Are you at all familiar with the considerable literature that relates the 3-Body Problem to the unsolved Poincaré Conjecture in 3-dimensions ? Ahem .....”

The Poincaré Conjecture in 3 dimensions says that you ought to be able to take any solid mass without holes in it and knead it into the shape of a sphere; obvious to an idiot yet, to this date, unproven. I was about to say that, by an

unorthodox mapping of a very strange object, from 279 dimensional hyperbolic space into 46 dimensional elliptic space, and by the performance of appropriate surgery maneuvers on the manifold , followed by an embedding into 3-dimensional Euclidean space which is so complicated that it's almost impossible describe , one obtains a counter-example to the Poincaré conjecture.[9] As I began to open my mouth , I stopped myself: it was incautious to reveal too much too quickly:

"There are some serious doubts " , I equivocated, "concerning the Poincaré conjecture in 3 dimensions. If I'm correct, then there do not exist exact solutions of the 3-Body Problem in those cases I'm looking at ." Following this introduction I launched into an unbearably tedious exposition of the matter.

By now I could neither avoid nor pretend to ignore the presence of an individual standing in the crowd quite close to me, a man in his middle 30's who manifested his unpleasantness in many ways. At that precise moment for example, he was earnestly engaged in blowing the fetid smoke of an unfiltered Philip Morris up my nose. Reinforcing the smoke was the dirtiest tobacco breath encountered in all the days of my limited experience. His teeth were stained black as tincture of hebona, while nicotine streaks covered his right hand.

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9 **A flaw in this construction was discovered on June 14, 1970 .**

#90…

He was hostile. Rage suppurated from every nook and corner of his physiognomy. His face was covered with acne from the lobes of his ears to the point of his chin, not your garden variety acne either, but gathering in great clumps of raw, bright red pimples like tomatoes at picking time. Though he didn't seem to shave, he was not bearded either. Stiff patches of black facial hairs jutted above the pimple clusters like crabgrass over the rocks on Calvary. Nastiness twisted up his lips into the facsimile of a trefoil knot .

The skin on both sides of both thumbs had been scarified through incessant scratching from all his other grime-impacted fingernails. And you may just think I'm just making all of this up, when I assert that the long black hairs descending from his nostrils put one in mind of the dangling legs of black widow spiders , or that his teeth, eternally unbrushed, were as black as a Freewash coal-pit, and reeked like the lithium-sulphur lifeform from the planet Smyrnx , but every word is as true as the formulae in Hadamard's proof of the Prime Number Theorem . His was an unrenormalizable mess.

If that's what higher mathematics did to people , I wanted out. Now he boldly stepped forward to confront me. A mere two inches or so of enhanced proximity produced an exponential rise in his reek:

" You must have realized by now, kid , don't you, that on page 87 of that so-called 'research paper' of yours, you divide by zero?"

#91...

I was ready for him. From the moment I'd laid eyes on him I'd been ready for him:

" Oh yes - I'm perfectly aware of it. If you had bothered to read the first six pages of the exposition, you would have learned that the "zero" defined in this particular situation is really an operator with special properties . Division by zero is permitted."

A wave of horror, repulsive as the slime from the lick of the giant tongue of some reptilian monster, surged in the heart of every person standing in the lounge. The dreadful pause of shocked silence was soon followed by a confused babble of voices that quickly swelled from timid utterance to a wild raging torrent of hoarse maledictions and imprecations, oaths, menacing scowls , shaking fists, a maelstrom of blind indignation that could well have carried me out the door and into the hands of a lynch mob! All appeared lost. Prepared as I was to die for my convictions I met the swelling fury with mute determination.

Imagine my astonishment and gratitude on hearing the nasal, insolent whine of none other than Bob Boolean coming to the rescue:

" No. Frank, you're wrong. Aleph knows his business. What he's done is quite remarkable in fact. In order to deal with a unique class of non-linear differential equations arising from the orbital behavior of Jupiter's satellites, he invented a new kind of Operator Algebra. The covering space of this Algebra is called a Jovian. Rather than "zero" ,

he’s talking about a kind of “cancellation of opposites”. The division is made before the cancellation, after which the quantity vanishes.”

“Bob is right! ” I cried, ecstatic at having found an ally at my
level : “ A homomorphism takes the Jovian into a non-standard Clifford Algebra acting over the modular group. Divisibilty is preserved intact until the operation is completed, and only disappears when quotiented out by a ramified algebraic structure incorporating certain ghost elements that seem to work because they give the right answers , although they should not properly be called objects of mathematics but highly unorthodox heuristics.”

“ Ingenious, Aleph, quite ingenious . A novel idea.” Boolean’s lips shaped themselves into the form of an odd, superfluous smirk, before returning to the tracing of Imagist sculptures in the air.

This interchange broke the dam. I found myself acclaimed and besieged by the multitudes. Some blurted out incoherent phrases. Others shouted at me, alternating outlandish flattery with snide insults. All seemed intent on making some gesture, anything at all, merely so that they could later say that they had intersected on that particular afternoon with the legendary Aleph McNaughton Cantor. One piped-and-tweedy sort invited me to his Oriental tea ceremony and ritual Go- game held on Monday afternoons in his office. Régard Nombril asked me to be the guest

speaker at the monthly meeting of the national mathematics fraternity, Pi Mu Epsilon. Dr. Mengenlehre deftly handled the crowds like an old hand, fielding questions, encouraging some persons while turning others away, weeding out the bores, cutting in whenever someone appeared to be asking embarrassing questions, etc.

In a far corner of the room sat a young woman, whose dark oval face beckoned to me like the vision of a lovely mirage in a stifling desert. Her eyes were focused upon mine with a dense admiration amounting to sacral awe. Coming closer I discerned a face both intelligent and intense, with a distinctly Hispanic cast. I very much wanted to meet her, and started to walk across the room to introduce myself. In a flash the same dungpit who'd tried to trip me up, Frank, blocked my path. Determined to fulfill his role as a total crumb, he dug his filthy fingernails into the flesh of her upper arm and yanked her out the door.

Later that evening, as we waited in the lobby of the Faculty Club to go into dinner, I questioned Mengenlehre about them:

" That's Frank Kriegle: his nick-name around here is the 'latus rectum' . He's not known for being too sociable. Speaking frankly he's rather an ass. He's not stupid: you realize, of course, that nothing else matters in our profession. You would be amazed at the incredible research he's been turning out in Non-Standard Arithmetic since returning from his latest stay at the Philadelphia Psychiatric

Institute. The slightest thing throws him off balance, so it's best to avoid him for the time being. Later, etc., etc.…."

" Who's the woman he pushes around? She seemed charming!"

"Felicia Salvador . She's a postdoc from Argentina. " Tears sprouted from underneath Mengenlehre's thick glasses. He removed then with his right hand as with the back of his left wrist he wiped away the accumulated lachrymose solute:

" A department marriage, Aleph! ...it makes me.. Forgive me if I blubber, young man, I don't know how to say it: it makes me feel young all over again, as if a tropical burst of sunshine is just melting away all those iced- over epsilons and deltas ! The engagement was announced last April. They're to be married in February. You know, Aleph, I've been department chairman for the last five years. There's nothing enviable about the job.", he dried his glasses on his jacket sleeve, " Most of it is incredibly petty. Nobody ever seems to understand that nothing personal is involved when you nix their pet project or, God forbid, you have to give them the sack . The university higher-ups call the shots in a great many of these cases. I'm just a flunky, really.

"Yet some small compensations remain, Aleph, for the ennui, the disillusion, the chagrin, the baseness of academic politics, and among them is the joy we all experience when the dagger of love smites our very own

busom, when from the dull slogging everyday routine there emerges the miracle of romance , and from the grayness of all theory, there ushers forth...ah...er... “Life’s green and golden tree! ”

Why anyone would rejoice over the marriage of a sweet humming-bird with a chain-smoking tarantula was beyond me. Well, it was none of my business. I was too occupied with my own problems. As we walked into the Faculty Club dining-room, a graduate student thrust a paper in my hands, something about spectral analysis on Banach spaces. All of his results could be anticipated by a glance at the first page and, as I’d suspected, a perusal of page 11 confirmed that his principal theorem was invalidated by a trivial error. However I promised to look it over in my spare time, now and forever onward non-existent.

Another oppressive enthusiast had begun descanting to me in a whining voice about Number Theory. I cut him short by remarking that Number Theory was less interesting than a good TV sitcom. It wasn't too early to begin developing the characteristic rudeness appropriate to my chosen career.

Formal introductions were made to Régard Nombril and Wiegenlied Wissenschlaf later than evening . I eventually developed an enormous respect for Nombril. His delivery tended to be ponderous, but it was worth the effort to develop the patience to listen to him. With a few well-chosen observations he could open vistas.

#96...

Yet he did have some disconcerting traits. Régard had a way of halting his conversation in mid-stream and remaining mute for 10 or 15 minutes, even for hours. If you gave him a mathematics problem he found interesting, he might sink into a brown study - one had the impression on these occasions that he was literally staring at his belly-button - from which nothing could rouse him until he had pondered all the issues right through the end. If you started to speak to him, he would shush you with a finger to his lips, indicating that he was still thinking about your problem.

This might go on for several days. Then, as if waking from a deep slumber, he could suddenly fix his eyes on you and begin picking up the conversation at the exact place where it had terminated. More often than not he'd come back with the right answer.

Wissenschlaf was a professional pedant. He could microtome a theorem into a thousand pieces with no intention of, or capacity for, putting it back together. An impassioned bore, if that phrase has any meaning: given any topic, he could turn it irrecoverably into a porridge of stale bibliography. Left to his own devices he could go on saying nothing for hours, and it was just about impossible to get around him because one would have to go back to ancient Sumer to find things he hadn't read. It came as no surprise to me that the Queen of the Sciences had wearied so quickly of her lover.

#97...

Like the body of some colonial heretic crushed to death from the iron weights loaded onto him by the Pilgrim Fathers, one's mind burst to scream out its confession to any crime, however dreadful, under the pressure of one hour of Wissenschlaf's merciless monologue. He was a mathematician primarily in the sense of his ability to manipulate complicated lists of references in his mind like the factors of an algebraic equation. To maintain his status in the academic community these concordances were periodically published as articles in the mathematics journals. They were remarkable productions . One could cut them up, re-arrange them in any fashion and still come out with the same article. Perhaps he should have gone into music: he was an agile contrapuntalist.

The one course I took under Wissenschlaf, an unforgettable 3-
credit-hour course on Differential Geometry , did little for my interest in the subject, though it did quicken the eruption of my sex life. The combination of 3 hours each week in his custody with the hardwood seats of the Math-Physics auditorium, engendered so much jock irritation, that hormones blossomed forth which under other circumstances would have remained dormant for a few more years. Similar things happened to my other classmates: there never was a randier class of grad students. The departmental secretaries watched the clock in terrified

anticipation of the moment when our classes let out. Those who could arranged to be away at those times .

That evening I met one other person of significance for my academic future. That was the Provost of the University, Dean Jameson Hardball. Mengenlehre had deliberately seated me next to him at the dinner table.

At 46, Dean Hardball came well qualified for his office: young enough to incarnate the clean virtues of the Ivy League yet sufficiently mature to cast his judgments into the judicious balance of eminent scholarship. He entered the administration from Medieval History, had no trouble surviving McCarthyism , then executed a gambit into the presidency of Misty College in New Jersey, (where he is said to have done great things for the library) , before returning to Zelosophic as Provost in 1947. In 1955 he would become President of the university.

The unsettling discomfort of Hardball's benign gaze impinged upon my consciousness mid-way through the shrimp salad. I looked up into the face of a pudgy, moderately intelligent, bland though not totally nondescript bureaucrat, sizing me up as he might a prized football player. He nodded at me and winked; I mimicked the gesture. Nudging his forefinger playfully in my direction. he said:

"Well, Aleph, I hope you'll be happy here. We expect great things of you."

#99...

“There’s some serious questions as to whether I’ll be happy here.” , I said, truthfully. Hardball’s cheeks sagged and his expression turned dour: “I gather you’ve already felt the lack of companionship in your own age group. We all try to be chums at Zelosophic . That’s what a university’s all about, really . I faced some of the same problems you’re going to have to deal with having when I first came here in 1920. Zelosophic filled up with veterans after the First World War, and us newcomers felt left out of things. Aleph, maybe you should join a frat; that helps some froshes vault the hurdle. If you’ve got any problems don’t hesitate to come up to see me and talk them over. Just come up for a chat! That’s what I’m here for. That’s what they pay me for. You’ve got a lot of green lads,” he allowed himself the luxury of getting sentimental, ”coming to the big university feeling they haven’t got a friend in the world. That’s what I am : the undergraduate’s friend! Aleph, people sometimes get the wrong impression. They think my job is mostly paperwork...”

Hardball had been talking to his fork for some time, but I did not doubt that he meant to include me,

” - that’s all wrong. Feel free to see me anytime...anytime at all!”

No sooner unburdened of his speech, Hardball swiveled away from me and began a conversation with the person seated across the table to his left, the Dean of the Medical School . I did make one more attempt to draw him out, on the matter of my curriculum. After a muffled remark to the

effect that it would be taken care of, he stoically ignored me. For the rest of the meal he was incommunicado, even rude.

The food was acceptable by most academic standards. The lecture I gave afterwards was also very well received. Notably absent was Frank Kriegle. Everyone able to understand it had already read my paper, and appeared to be in agreement with its conclusions. Apparently Jupiter's moons will, after all disintegrate in a bit more than a million years!

I had been well catapulted into academic life. Between myself and the institution the highest expectations were reciprocated, with the Gaudeamus Igitur , as from many carillons of bells, already reverberating throughout my consciousness.

Yet: although it can be seen that my youthful beginnings were brilliant, even miraculous, at the very least astonishing, in its unfolding the remainder of this narrative will reveal only a pitiable train of humiliations and defeats, a swamp of fetid miscarriages, the shameless confessions of an academic outlaw!

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Chapter 6
The Training of a Mathematician

For twenty years the world has been storming the ramparts, demanding answers to the question: What ever happened to Aleph the mathematician ? One of my intentions in writing this book is to silence these voices once and for all. The historical record is clear: the unique endowments of most mathematical prodigies go into a steep decline in their mid-twenties. Still, despite 8 years of turmoil at Zelosophic U. on more than one occasion rising to a state of outright war, I was only 21 when I graduated with a BSc. And I can still evaluate a mean integral, although it is painfully obvious that in my mid-30s I can't begin to equal the facility I had as a child . One imagines that it might still be possible to make some sort of contribution to the Queen of the Sciences.

Why is it then, that after my ground-breaking communication in Celestial Mechanics, (and apart from a number of cute algebraic number theory doodahs which, like so much of mathematics, lead precisely nowhere), my publication portfolio cannot boast of a single noteworthy result in any branch of mathematics , pure or applied? The short answer is that I don't know. The long answer is in the remaining pages of this book.

Ah! How I well remember the boundless joy of my first weeks as a student in Dr. Régard Nombril's course on advanced functional analysis! In 1948 Régard had

abandoned uncooperative manifold theory to launch into the fledgling field of Anti-almost-everything functionals . He could have earned a Nobel Prize for his work, had there been a Nobel Prize in mathematics. It may be because he lacks the charisma that prize-winners, worthy or otherwise, seem to need, he's never received any of the other prizes normally given to mathematicians either , the Bocher Prize, the Fields Medal, and so forth. Mathematicians knowledgeable in his field are unanimous is asserting that he's deserved them all.

Anti-almost-everything functionals are a class of functions mapping large mathematical objects, even entire subjects like Group Theory, Topology and so on , into a vanishingly small subset of entities called, in fact, non-entities . It should not be confused with Category Theory, which map such objects into each other. By passing the non-entities through Filters and Ultra-filters, one ends up with an infinitesimal remnant, appropriately named The Interpretation .

Although the field of anti-almost-everything functionals is, properly speaking, a branch of pure mathematics akin to Robinson's Non-Standard Arithmetic, it has many practical applications. Fields as diverse as Philosophy, Sociology and Literary Criticism have benefited from its methodology. It was Régard's peculiar genius to recognize the similarities in the fundamental assumptions underlying these seemingly unrelated disciplines.

#103...

Uninformed laypersons often make comments to the effect that research in mathematics consists of some sort of sterile mental gymnastics , whereby arbitrary axioms are yanked about to produce mystical joyrides. Nothing could be further from the truth. Mathematics is our most effective mirror of the real universe, a mirror relentlessly polished until it is spotless. Anti-almost-everything functionals have been used to shed light in many dark closets of the mind. One welcomes its illuminating role in navigating the murkiest and mustiest bogs of stagnant thought, particularly in those fields in which obscurity is the sine qua non of intellectual respectability.

As a notable example, through a judicious application of anti-almost-everything functions the whole of Heidegger's Being and Time can be reduced to a page and a half, where the half page is used up listing the various non-entities inherent in the text. Régard assigned this particular exercise to me as a seminar paper. From time to time I still relive in my mind that keen apperception of intellectual beauty experienced as we discovered together that 1000 pages of Heidegger's text could be reduced to 4 words plus a semotic signifier embodying a complex mathematical operation.

Régard's ingenious constructions lay the foundation for the emergence of Structuralism, a now defunct movement in academic discourse that is reputed to have been initiated by the mathematician Jean Dieudonné. It is known that

Nombril and Dieudonné were in frequent communication during the structuralist vogue. Seen in this light, the major contribution of the so-called "structuralists", Claude Levi-Strauss, Roland Barthes, Jean Piaget, Noam Chomsky, Althusser, deSassure and so on, consists in the discovery of a class of non-entities more infinitesimal than any of those previously identified.

Had Régard Nombril been put exclusively in charge of my education there is little doubt in my mind that he would have made a mathematician of me. It was my misfortune to have been enrolled at the same time in Frank Kriegle's course on Exceptional Logics . Kriegle and I were born to be enemies. I was coerced into taking his course by the demands of academic politics. In fact, my enrollment in it was forced upon me because of an incident that occurred one afternoon in the Graduate Student Lounge (GSL) in the very first term of my Freshman year.

The GSL at Zelosophic was, and still is, a honky-tonk of the intellect. Entering it one might easily imagine oneself in some video games arcade at 42nd and Broadway. One can't buy switch-blade knives or old swastika shoulder badges there ; yet in its seediness it exudes the same quality of the illicit . One also uncovers as much dirty underwear on display between male and female as in any triple-X movie.

Sizable alumni endowments had enabled Mathematics to purchase an unlimited quantity of brain-numbing distractions . A modest estimate of the inventory of games

in the GSL in the late 1940's includes 8 chess sets, 12 Backgammon sets, 6 decks of playing cards, 10 sets of Go pieces, 7 Go tables , 4 Nash boards, (a game invented independently by Piet Hein and John Nash) , 5 Wff'n Proof sets, two boxes of Strategy, 3 Mancala sets, 3 Erector Sets, 2 boxes of tinker toys, pick-up sticks, Chinese puzzles, and 3 rubber homeomorphism sheets. These games were promoted as mind-expanding devices. The comparison with psychedelic drugs is apt: for many the GSL functioned as a kind of headshop.

Typically on any weekday afternoon after 4 PM, one might find Dr. Mengenlehre squatting cross-legged on the floor blowing soap bubbles into Plateau frames; even in his leisure activities every inch the mathematician. Régard Nombril for the most part just sat around, lost in thought; but occasionally he and Wiegenlied Wissenschlaf might take turns stretching the rubber homeomorphism sheet, each dictating his observations to the other who wrote them up on the blackboard. When he wasn't doing this, Wissenschlaf sat in a corner alone , staring through kaleidoscopes or competing against himself in solitaire card games of his own invention.

Owing to its propensities for brutality, the Oriental board game of GO, which I'd once found fascinating, eventually came to repel me. From its innocent beginnings as a challenging game of strategy and spatial aptitude, a GO match it could easily degenerate into a demonstration of

amateur Karate. GO brought out latent viciousness in people one never imagined was in them , as well as bringing it out in individuals like Frank Kriegle, about whom the matter was never in doubt. Frank himself could be expected to overturn boards, sending pieces flying about the room, or deliver kicks on the shins of his opponents, or breathe on them, or commit other acts of capricious violence. When Frank Kriegle played GO, one expected violence. His entrance into the lounge served as the signal for many to hurry back to their research.

Gamers and gamblers from all over the university came to the GSL, playing the math department games until late at night. This produced a atmosphere permanently super-saturated with tension. Harmless board games could turn deadly unpredictably . Chess players stared at you with bloodshot eyes as you walked through the door, not bothering to return greetings. So thick was the ambient hostility that one was embarrassed to hear the sound of one's own voice. Although physical assaults was frowned upon in this penny arcade of the intelligentsia, swearing, shouting and grunting were the norm , while snide below-the-belt wit was frankly admired as evidence of manliness.

Yet the repartee rarely sparkled. Chagrined from losing a chess match, one of the aficionados might come up with some crushing remark at the level of : " I'm amazed you won that game, given that my IQ is 30 points above yours! " Hardly evidence of genius. Looks could be more effective

than words: a game might hang suspended for as much as twenty minutes, each player rigid in a catatonic posture in a vain attempt to stare his adversary to the floor. One often saw that mixture of pity, amazement or contempt that one commonly finds among scientists and mathematicians in particular, when confronted with the stupidity of one's adversary. Frank Kriegle looked that way all the time.

For reasons unclear to me , I've never been any good at games, It often seems the better part of wisdom to let the other person win. His ego is bloated and you're free to think him a fool. The loser can't do worse than lose, but the winner has real problems. In the long run losing is better for one's peace of mind. Victory makes defeat that much harder to accept, and no one can win all the time. To round off these comments it seems fitting to relate the sorry tale of Marvin Bench, which happened around that time.

Bench was a smart first-year mathematics grad student. Colleagues familiar with his research characterized it as brilliant , even revolutionary. I read some of his papers and thought them pretty good myself .

What happened to him is therefore all the more tragic. In a few words, Marvin became addicted to ping-pong in his junior year. By the time he'd entered graduate school the game had taken over his life. Put a ping-pong paddle in his hands and he would froth at the mouth. When not attending class one could generally find him in the ping-pong court

located in the basement of the Student Union, acting out his existential dilemmae.

There Bench could be seen leaping about wildly, grimacing like a samurai, hissing violently between his teeth, emitting gut-grunts ripped from his innards, charging the entire court with an hallucinatory aura of terror. His opponents braced themselves for the inevitable thunderbolt, as Marvin reared himself up with demonic fury and, concentrating all his force, smashed the ball - into the net !

Marvin never won a game unless it was against a novice who hadn't yet learned how to serve or return the ball. Despite this, Marvin Bench saw himself as a great ping-pong player. He carried himself like one, too.

It must have been near the beginning of my second term as a Freshman, sometime in March of 1949. I was sitting in the GSL on the day that Bench came charging into the room, brandishing a ping-pong paddle, and looking for people to kill. We were all in danger: something had snapped. Without warning the mind of a once-promising young mathematician had spontaneously descended into the pit of incurable lunacy. Marvin flew about the lounge, spreading wreckage on every side . With one wicked swipe he broke Hans Mengenlehre's arm. On the rebound the paddle caught Wiegenlied's glasses. A broken sliver of lens penetrated his eye and had to be removed by surgery. I was among the five needed to hold him down. Alter Buba, who entered after hearing the commotion from the corridor,

was able to calm him down by swaddling him in the homeomorphism sheet. Material damages included all of the room's glassware, 6 bowls for GO stones, 5 chess boards, all the card playing tables, 2 slide projectors, a few windowpanes, and the blackboard. An ambulance arrived. Marvin was put under sedation and taken to the psychiatric ward of Philadelphia General Hospital. After that he migrated through the state mental hospital system and we lost touch with him.

Bench's fate confirmed my instinctive feeling that one ought to be very wary of games. Yet one has to remember that I was just 13 , and still in the habit of disparaging my own judgment. Why should a 13-year old respect the opinion of another 13-year old, even if he happens to be himself? Consequently I participated to some extent in games, because of which I got into trouble. By a serendipity more cogently qualified as predestination, I almost always ended up playing chess with Felicia Salvador.

Our chess games were essentially pretexts for conversation. Neither of us cared about winning, and we rarely brought them to completion. Despite , or more likely because of this, the sight of us together had a corrosive effect on Frank Kriegle's normal irritability. In hindsight it might appear ridiculous that Kriegle could become jealous over his fiancee's affection for a 13 year old - but, well, I'm getting ahead of my story.

#110...

We tried to schedule our encounters in the graduate lounge on days when Frank wasn't likely to be around. If he walked into the lounge our game was as good as over. He interfered in every possible way. Either he leered over the board, or he indulged in shameless kibbitizing. Or he might throw out rude, pretentious remarks, or force us to engage in long discussions about trite mathematics; and other tactics of a similar nature. More often than not he would completely take over one side of the game, shutting out its player completely!

Sometimes he became so thoroughly absorbed in our chess games that he would start playing both sides by himself. Stunned, Felicia and I watched as, sweating and cursing, Frank shifted pieces back and forth, changed their positions, reconsidered moves half a dozen times, treating us , not himself , as the spectators, when aware, that is, of our
existence at all. If something made him really angry he would overturn the board, pull my ears and yank Felicia out of the room .

One afternoon near the end of my first term as a freshman, Hans Mengenlehre walked into the graduate lounge to encounter the following situation: at one end of the table sat Felicia and myself, speechless with amazement. At the other was Frank Kriegle, deeply absorbed in playing the two sides of our chess game in each of his hands. Every time he perceived that one of his hands had

made a stupid blunder he banged his free fist on the table and swore.

Maintaining the classic pose of equanimity which is the hallmark of the true scholar, Hans walked over to our table , pulled up a chair and joined us. Felicia and I nodded to him in greeting. Frank remaining unaware his presence. Sucking at the stem of his pipe, he gazed at the three of us as if he'd made the historic discovery of some anomalous non-Euclidean triangle. Then he noticed what was clearly a foolish move that Frank was about to make with Felicia's rook poised aloft in his left hand.

Hans did nothing more than mutter a discrete "Uh-Oh". He immediately had cause to regret it, for it completely unhinged Kriegle. Without bothering to ascertain the identity of the intruder, Kriegle lifted up the board, pieces and all, and threw it in Mengenlehre's face! Then he ran out of the room.

Hans Mengenlehre had some skill as an administrator. Whenever possible he preferred compromise to confrontation. He was not alone in feeling that the department couldn't afford to lose him: Frank was doing some notable research in mathematical logic at the time. In addition Hans's starry-eyed fantasies of myself as the department prodigy, and Frank and Felicia as the department marriage had not diminished. Although he could easily have asked for Frank's immediate resignation he decided to pursue a different tack. Frank encountered him in

the halls a few days later and mumbled some sort of apology. For the moment Hans appeared to be content to let it go at that.

But a week later I was called down to the departmental office. Hans waited until we were seated face to face before informing me that I would have to take Frank Kriegle's course on Exceptional Logics. He urged me to make a real effort to be friendly to him. I gather he said something similar to Frank also; for soon afterwards I began receiving invitations from Frank to meet him at the local bar and have a ginger ale on him. Once again Hans indicated, politely of course, that it was my duty to accept.

I would not call Frank Kriegle a gifted conversationalist. There were only two subjects he cared to talk about. The first was his current research in mathematical logic . The other was a scheme he'd worked out for cheating his future mother-in-law out of her estate. He'd worked it out to the last detail: the blackmail, the subterfuge, even the costs of shipping her movable assets from Argentina. He'd calculated that the money he would make from selling them would be enough to enable Felicia and himself to buy a house in Swarthmore once they were married.

I never understood the details, a matter of wills, dowries , contractual agreements, Argentinean law and so forth. His pride in his own cleverness was boundless. He constantly reassured me that he bore no ill-will towards Felicia's mother . In fact he liked her: she could come visit

them in their house in Swarthmore at any time, though of course there could be no question of her living there.

His obvious determination to drive this elderly woman into bankruptcy was terrifying. He assured me that he would do the same to his own mother. His future mother-in-law's child-bearing days were over, he explained, while Felicia's were just beginning. It was only right that the elderly make way for youth. He called it the "wisdom of the animal kingdom", and gave credit to Darwin for the revelation. Legally the estate was Felicia's anyway. Besides they would need a place to live if ever, for some reason, they should want to make Argentina their home. It was all a matter of mathematics, really. It was at these Brüderschaft fests that I learned that Frank Kriegle, the most slovenly individual I'd ever met, saw himself as a paragon of high cultivation and sophisticated taste. It was common knowledge that he devoted months to searching out a Dunhill pipe adequate to his aesthetic requirements. Any composer other than Mozart he claimed to find repugnant. He wanted me to understand that his manner of dress set the standard for discerning fashion. In fact Kriegle was such a complete slob that it took me several weeks before I realized that every item of clothing he carried on his person was in fact quite expensive. There could be no question of his ever trying on anything in a department store, let alone a thrift shop. Naturally I wondered how he could afford to buy all the clothing he mistreated on an Assistant Professor's salary .

The answer was simple: Frank lived, free of charge, on the estate of his well-to-do parents in Wayne, a township out on Philadelphia's Main Line.

Discovering this simple fact opened up new vistas in my conception of the Kriegle phenomenon. It made him almost human. He was a misfit of course - yet he was also a rebel without a cause. The correlation between his filthy rich family to his filthy expensive clothing was simple and direct. His mere presence could create a burning sensation in the intestines, like a raw chili pepper; yet he was one of those who could afford to wear the raiment of a prince while reeking like a hog farmer. And if he was obnoxious and nasty it must have had something to do with his sense of being unloved by the anonymous lot of mankind.

There is more to it than that of course: a hog farmer's perverse odor is directly traceable to his profession; he has no intention of giving offense. Yet from his long, uncut, grime-incrusted nails to the outermost overtones of his poisonous reek, Kriegle had forged a weapon of his body as potent as anything outlawed by the Geneva Conventions.

Assuredly an alienated soul , therefore a fascinating human being.

And a single glance in Frank Kriegle's direction was enough to convince anyone that he was alienated. As for his having a soul, it was not to be doubted: something had to exist underneath all that toxic waste just to hold it together.

Such insights did not make it any easier to get along with him. I began attending his classes on exceptional logics at the beginning of the Spring term of 1949. Everything that was most disagreeable about him emerged in a concentrated form when he stood before the blackboard at the head of a classroom room. Most of the first day of Exceptional Logics was devoted to reminding us that he was the teacher and we were the students. By the beginning of the second week we'd reached the conclusion that what he'd really meant was that he was the patient and we were the doctors. Frank Kriegle's comportment was in turns erratic, distracted, uncooperative, reproachful and suspicious. His basic pedagogical strategy consisted in his standing at the blackboard, staring at the floor, waving his arms about in every direction, and muttering to himself.

After 40 minutes or so of this charade we were allowed to ask him questions; yet his mind was of such a cast that he could not discuss any issue without obscuring it further. In due course of time one of the students got up the nerve to ask: " What is exceptional about your exceptional logics ? " Kriegle's initial response was to ask him "Are you in the right class? " The student said he thought he was, whereupon Frank launched into a long incomprehensible ramble through batches of symbols chaotically dispersed around the blackboards, references to about 20 papers, arbitrary definitions that made no sense and led nowhere, sweeping arm gestures, and incoherent, vaguely malevolent

comments whispered to himself. He concluded his exposition by remarking that, inasmuch as he'd explained himself so well, he didn't expect to hear that question asked again by anyone else.

To this day I do not know what an exceptional logic is, what makes it exceptional, nor why there are so many of them. I've always suspected that Frank's course was about good old-fashioned mathematical logic, one of the great achievements of modern mathematics and a subject I'd already studied in high school.

Then came the inevitable day when one of the undergraduates admitted to the class, advanced in mathematics but green in the ways of the world, foolishly blurted out the old chestnut: "What do we need to know for the final exam?"

It's just about the most irritating question a teacher has to face, particularly near the beginning of a term, and one could not blame even Frank for being annoyed. His first response was to light up another cigarette. Then he proceeded to glower at us through his bloodshot eyes, muddied by indelible barbarism. Snapping out of his trance he shook his fist at us and barked: " I haven't got a God-damned clue, but if you don't figure it out for yourself soon enough, I'm going to see to it that you flunk!" Which observation was followed by a bout of manic laughter. Acquainted as I was with Frank's sense of humor, I

cautiously emitted a mild giggle. The rest of the class stared at me in horror.

" If you're smart, responsible and not a total asshole ! " , he went on, staring meaningfully in my direction on the final words, "you won't have anything to worry about." Then he withdrew even more completely into himself.

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Chapter 7
Love's Awakening

Pace non trovo et non ò da far guerra
e temo e spero, et ardo et son un ghiaccio,
et volo sopra'l cielo et giaccio in terra,
et nulla stringo et tutto'l mundo abbraccio

- Petrarch, Sonnet 104

Felicia Salvador sat next to me in class. We got into the habit of comparing notes to see if between the two of us we could make some sense out of Frank 's lectures. We couldn't do this in class, since Kriegle threw a temper tantrum whenever he caught us conversing . Still, for some strange reason he insisted that we continue to sit next to each other. He once told us, in a voice thick with menace, that we were his "witnesses for the prosecution". What deeper meanings were contained in that comment totally escaped us.

Felicia and I therefore arranged to meet clandestinely, in a darkened booth in a tawdry yet cozy drugstore/diner, the kind of place dear to students, yet certain to be shunned by anyone of Frank's aristocratic pretensions.

In terms of advancing our studies, these sessions were not overly helpful; yet they were valuable in other ways. Her notes in Exceptional Logics were even more scattered than mine. I'd taken Kriegle's disconnected oratory and worked it up into a continuous hydrodynamic froth of meaningless

phrases. One might have called the result a form of Surrealism. Felicia, just as confused, had simply written down the odd word here and there, not even noticing where they were being placed on the page , under the misguided assumption that she would be able to rearrange them later on into a more-or-less connected discourse.

The imaginative scenarios in my pages did not in any way complement the random words on hers. Had an impartial observer from the mathematics community been invited to read our notes, he would have thought we were attending classes in completely unrelated subjects. None of her key words appeared in any of my phrases, nor did my phrases shed any light on her words.

We usually gave up after 15 minutes and spent the remainder of the time just getting to know one another. Obviously I was curious to know what a Felicia Salvador could see in a Frank Kriegle. My question came to her as no surprise: one had the impression that she'd often asked herself the same thing. When I first brought up the subject she countered with an official statement to the effect that she was aware of all his faults but was still very much in love with him. Piecing together a more satisfactory answer required several weeks of meetings at the diner. The picture that finally emerged is unavoidably biased by future developments, though true in its essentials:

They'd met several times at social events in the department. However the first time they really took a serious

look at one another was at a football game in December of 1947. Frank Kriegle was a football fanatic. Felicia had never seen an American football game in Argentina. Out of curiosity she'd bought a ticket and gone alone to the stadium.

As she recalled, Frank was standing up on the bleachers and compulsively stuffing popcorn in his mouth. He was appropriately dressed for the occasion: a long woollen scarf with alternating red and white stripes; Ivy League trench coat; baseball cap and mittens bearing the Zelosophic insignia. The consumption of popcorn was only interrupted long enough for him to shout obscenities whenever the home team fell short of his expectations.

Felicia was seated on a bench three rows down in the bleachers and directly below him. What drew her eyes in his direction was the impact of volleys of popcorn flying out of his mouth and dropping into her coat collar and down the back of her neck. She turned around to glare at him in indignation. Their eyes met; each held the others' as in an iron vice : it was love at first sight.

Formal introductions were superfluous since they'd already met in the department. It appears that this total alienation from their natural habitat had been required to effect the copulation of spark and tinder. I have often speculated about the significance of that football game: was it the stimulating catalyst of manly sport which heightened the flow of vital juices, in order that the

quivering babe of love might spring unsolicited from the loins of visual contact? Or would it be more accurate to say that Frank Kriegle had finally found someone who would allow him to drop popcorn down the back of her neck without protest?

As with most things, the answer will never be known; not that it matters very much. Even if correct, the latter hypothesis does not explain her side of the attraction. Despite her insistence that she'd loved him from that instant recognition at the football game, what I think happened is that the impressions accumulated from their earlier encounters in the mathematics department finally came to a head. Frank Kriegle challenged Felicia Salvador's basic assumptions about human nature. The enigma haunted her until she found relief in the conclusion that it was love.

After the game they went to her apartment for coffee. Frank tried within his limitations to play the gallant. He apologized for getting her coat dirty, even promised to buy her a new one. Having gotten that out of the way, he spent the next hour demeaning the cut, design and material of the one she was wearing until he'd convinced her that the genes that attune one to modish style and fashion were not in her heredity. As he lectured her on her biological incapacity for civilization, they lay side by side, face upwards on her bed, with Mozart on the record player.

From that initial moment of eye-contact there was never any doubt about where things were headed. All the

same it took over a month for them to hop into bed together. Felicia confided in me that Frank was pathologically shy; she herself is not exactly the most aggressive person on the planet. There could never be any question of their holding hands together in public, let alone hugging or kissing. Even in the safety of her own apartment many subjective hang-ups obstructed the performance of the customary rituals.

In the beginning, a date meant a long and dreadful evening in her apartment. The boredom was excruciating. While Felicia sat up rigidly on the couch, immobilized and exasperated, waiting to be touched, Frank tried to work up the nerve to do so. For the first month or so they sat separated by a distance of 5 or more feet. As Felicia stared at the upper left hand corner of the room with hands folded on her lap, Frank , while talking an impassioned babble of mathematics, made groping motions with his left hand. As quanta will fall through a diffraction grating, he did accomplish random hits every now and then on her shoulders and breasts. Such sessions could go on for 3 hours at a stretch.

By the end of that first month Kriegle had worked up the nerve to rest his hand on her shoulder for long periods : unbearably long periods from what she told me. It would be as tedious for me to relate every stage through which they passed before making the final plunge, as it would be to have to relive their experience of doing so . A final

existential leap was needed to get them past the down-to-the-underwear phase; but after that it was easy.

All too easy, as Felicia was to discover. Next to mathematics, sex was the only outlet powerful enough to mitigate all the frustrations of a Frank Kriegle's tortured existence. It was only after she was absolutely certain that she could trust me that Felicia confessed that for the first year the only way to get him out of bed was to remind him of some theorem he was intent on proving. It was just her good fortune that the problems he chose to tackle were beyond the power of a dozen mathematicians working in tandem . Otherwise she could never have gotten rid of him.

Mathematics, sex, fashion; yet the learned Kriegle had ideas about politics, too. In her years as a undergraduate in the university at Buenos Aires, Felicia had fancied herself a Marxist of somewhat ambiguous persuasion: she'd gone to leftist rallies and supported 'people's revolutions' around the world. Settled in the United States and doing graduate study in mathematics she'd discovered that women, even educated ones were encouraged to not think much about politics. Her relationship with Frank Kriegle had led her to understand that she had no choice in the matter. It is no exaggeration to say that Frank could have her chewing the wallpaper once he started going on politics.

Frank was a fascist, an anarchist, a racist, a Marxist - a bit of everything in fact - but basically he was just a prick. The most astounding tenet of his political philosophy was

mass extermination of the unworthy. To his way of thinking too many inferior people were alive on an already overpopulated planet. They weren't happy - how can anyone ignorant of (for example) mathematical logic, be accounted happy? - and they made everyone else unhappy. The world had to be thinned out to insure the survival of the intelligent. Frank's fantasy schemes for achieving this objective made the architects of the Third Reich look like a pack of incompetent ninnies.

I'd already heard from him more than I ever wanted to hear again about his defoliation scheme. Defoliation was both simple and cost effective, and the only real objection to its indiscriminate employment was that large scale population displacements could lead to rioting, mob violence and other consequences of anarchy. It was a virtual certainty as well that many of the wrong people would be eliminated along with those who ought to be disposed of.

Kriegle therefore suggested that one begin by defoliating small tracts of land over an extended period of time. The uprooted hoards of refugees could then be engineered into patches of desert before being herded into concentration camps. When the overcrowding reached the breaking point, the government could begin dropping the A-bombs.

Frank was noted for expressing these views at Mensa meetings where he received a cordial reception. But poor

Felicia was obliged to listen to him elaborating his mad schemes for hours on end.
Surprisingly, (or perhaps not so surprisingly) ,Frank thought of himself as a Socialist: among the undesirables he wanted to eliminate were the corporate executives. Felicia had been exposed to these ideas for so long she'd almost come to believe in them herself. With a painful hesitation in her voice she asked me if I agreed with him.

After giving the matter some thought I confessed that I didn't. It was more than likely that his notions, however clever they might be, contained something in them that ought to be considered immoral. His logic I granted was airtight, and his arguments appeared to follow inevitably from first principles. All the same it just didn't seem right to murder so many people. That's what she thought at the beginning, Felicia replied. Now she wasn't so sure. She acknowledged that it was possible to love someone and not agree with his ideas. She imagined it might even be possible to love a man for himself while hating him for his ideas. But what could one do when the man and the thinker were so tangled up that it was impossible to extricate one from the other?

My heart went out to her at once. How much I'd suffered from precisely this ambivalence of attachment! How many good friendships I'd seen ruined through the frank revelation of beliefs, either my friend's or my own ! The stale cliché , "Love is blind" is well off the mark. It is

more accurate to say that love is stupid . Few emotional attachments can long survive the intrusion of an idea. Throwing a concept between friends or lovers creates as much devastation as dropping a lit match in a gas tank.

Writers and philosophers had by and large avoided looking at the extent to which brute unquestioning stupidity is essential to peace and harmony in all human relationships . No society could last a day, filled with Nietszches and Wagners! Love is impatient of opinions, intolerant of ideas, forgiving only of prejudices, and that with condescension. If one is in love and wishes to continue to be loved in return, no tactic is too underhanded that impedes the communication of even one complete thought to the object of one's affection.

Over the weeks as Felicia continued to confide in me, it became clear that her relationship with Frank Kriegle was poised, like a ballerina on tip-toe, on the presumption that he would never be expected to acknowledge that Felicia Salvador had a mind . A mind, Felicia certainly had. She had no confidence in it, but it was there, and it was impressive.

At the age of 15 she'd memorized the eclipse tables. Felicia could predict an eclipse anywhere in the world for the next 2 centuries . Before entering the university she'd trained herself to do arithmetic in base twelve. This unusual skill could be put to good use in Number Theory, even though she was intended to specialize in Algebraic Geometry. She was remarkable in lots of ways and Frank

Kriegle didn't know about them. She also had original ideas in politics, much better than Kriegle's, which she'd kept to herself. One day Felicia told me that she'd uncovered a statistical correlation between fluctuations in the Earth's gravitational field and the inevitable Marxist revolution. According to her theory, such fluctuations could be closely correlated to the cycles of inflation and depression. There had to come a day when the oscillations of the gravitational field struck the resonance frequency of the business cycle, resulting in universal chaos.

I was very pleased that Felicia had chosen me to discuss ideas she could never tell her fiancé. Victim of my own vanity I encouraged her to pour her heart out to me. It wasn't long before I fell head over heels in love with her. It was my first infatuation, as sentimental, pathetic, ridiculous and tragic as such things always are. The memory of it haunts me to this very day.

Of course I'd liked her from the start. As a colleague she was bright, free from envy, and willing to give encouragement even while pointing out the flaws in one's reasoning. Despite her connection to Frank Kriegle we might have gone on being friends indefinitely. Yet it was not to be. I was at precisely that age when the sexual oversoul proclaims its immanence, always with great fanfare, staking its imperious claims on the world, intolerant of opposition, an irrepressible, irresistible force of awesome destructive power that, once erupting in the psyche , ceases only with death.

#128...

Although 11 years my senior, Felicia was a woman. Felicia's interests were compatible with mine. As a companion, Felicia was congenial and charming. Felicia furthermore was pretty, sensual in a Spanish way with a polish of European sophistication that many must have found irresistible. Felicia and I were together too many hours each week. The rest is history.

My romantic interest in her was initially aroused by the sound of her voice making calculations in duodecimal arithmetic. To a trained mathematician the noises generated by verbal computation produce a sweet, gentle, purring music. In no form of computation is this more pronounced than in duodecimal arithmetic, which enables associations to be set up between the twelve digits of the representation modulo 12, and the twelve tones of the dodecaphonic system. Frank Kriegle may have acknowledgment no other God before him than Mozart, but Felicia was vintage Schönberg.

Sometimes she would recite in English, sometimes in Spanish. Words such as dos , tres , quatro , being so much more musical than two , three , four , there was no mystery in their capacity to lull me into a delicious slumber. As substitutions for "10" and "11" , she used the words sueno and
corazon , dream and heart in English . No doubt she imagined I was too juvenile for them to have much effect on me.

#129...

Hypnotized by the rhythmic gouts of soothing alto melody cascading freely from her full-blooded, quivering lips, my heart, unresisting to its magmatic flow, was gently rocked into a state of mild hypnosis.

Of a sudden it struck me with the force of a tidal wave that one of Felicia's ample breasts was larger than the other. We'd been sitting next to one another in Kriegle's classes for weeks without my taking stock of this commonplace truth. It occurred to me that this phenomenon was characteristic of all women, that it had been staring me in the face all my life without ever entering my awareness. So addicted in mankind to bilateral symmetry .

These idle reflections set my mind to wandering through labyrinths of hypothesis and deduction. This discovery, measured in terms of its revolutionary impact on my world-view, bears comparison with the moment at which Galileo Galilei remarked that there was something unusual in the swaying of a pendulum, a phenomenon familiar for mankind for over a million years . Galileo's insight ushered in all of Modern Science. My meditations on the relative proportions of Felicia's breasts heralded the quite terrifying eruption of my libido, much as if a tree , smouldering wickedly in the dark earth for untold ages, were to spontaneously blossom above the ground, grown to its full height , diversified and articulated to the outermost twig.

Felicia and I had already been sitting together for an hour in our customary booth in the drugstore. We'd wasted

most of that time trying to reconstruct some meaning from our lecture notes in Exceptional Logics, and we were both knocked out. It was then that, by way of a diversion, that Felicia proposed to recite, declaming every step along the way, the calculation of • to 72 duodecimal places.

The realization that her left breast was smaller than the right came at the 28^{th} duodecimal place. Of course there had to be other women whose left breasts are larger than their right. There was a natural subdivision of the world's population of women into these two classes,
(making some convenient decision as to where to place the boundary situations in which both breasts are roughly equal.)

This led to the peculiar insight that I preferred women who belonged to the class occupied by Felicia. No rational explanation for this preference was forthcoming. As an infant I'd been nurtured on baby formula and Similac. Yet it was obvious to me that, had I been breast-fed, the right breast would have been the one most frequently sought.

A statistical study could profitably be made of such anomalous biases. As subject for the Ph.D. thesis of some grad student in Sociology, one could hardly come up with anything better. One imagines the National Endowment for the Humanities underwriting a door-to-door survey, or a questionnaire on which men would be asked to state if they favored right or left breast size differentials. A statistic like that could well be correlated to all sorts of amazing facts !

Making society more aware of its preferences in relative breast size would greatly reduce the number of failed marriages and broken homes in our society. It is just wrong to blame women for the random distribution of mammarian asymmetry!

Around the 40th duodecimal place of □□ it occurred to me that the relative size of Felicia's breasts might serve as a standard of comparison for ranking all women with larger right breasts. There had to be women whose large breast was smaller than Felicia's small one. And I'd certainly observed women with both breasts larger than Felicia's largest! Reasoning in this way I ended up with 6 equivalence classes:

I. Women with both breasts smaller than (or equal to) Felicia's smaller one .

II. Left breast smaller than or equal to Felicia's smaller, right breast larger than Felicia's smaller, but smaller than Felicia's larger.

III. Left breast smaller than or equal to Felicia's smallest, right breast larger than Felicia's larger.

IV. Both breasts larger than or equal to Felicia's smaller, and smaller than or equal to Felicia's larger.

V. Left breast larger than Felicia's smaller but smaller than Felicia's larger, right breast larger than Felicia's larger

VI. Left breast and right breast both larger than or equal to Felicia's large breast .

It would not be a bad idea, I reflected, to put out a call for standard reference women with maximal breast differential . Serious political ramifications could not be ignored; the exclusion of single-breasted women, including those who have had mastectomies, from this system of classification might raise protests from some quarters. I've always firmly believed that Science cannot allow itself to be intimidated by political agendae of any kind.

Logically the next step would involve the fabrication of a Felicia-in-mirror-image as a standard of comparison for ranking women whose left breasts were larger than their right ones.

Felicia in mirror-image ! At the 60^{th} duodecimal place, I begged her to stop. I was in total delirium.

Felicia in mirror image!

I passed out. My equilibrium had been fatally undermined. What I was experiencing was nothing less than the spontaneous birth of the monster of sexual desire in my pubescent psyche, hitting me like a wack on the brain from Dionysius' long-reaching scepter. To this day I have not recovered from it. The bare facts of human reproductive anatomy had already been learned in Fraulein Zwicky's class in sex education. Yet, until the moment when the conceptualization of Felicia's breasts in mirror image rose, borne on the flotsam of my vague, lethargic meditations, from the septic tank of the unconscious; until the conflation of the disparate ideas , " Felicia" , and , "mirror inversion in

3-dimensional space" , shed its iridescence into my adolescent darkness , I knew less about sexuality than some incorrigible pedant who, with all knowledge at his fingertips, has not the wit to tie his shoelaces correctly.

Felicia in mirror-image ! With an irresistible fury my imagination feasted on the minute details involved in the process of moving Felicia's arms, legs, breasts, eyes and other distinctive physical features from one side to the other.

As the infusion of her proximate physicality seeped, potent and raw like the a quintessence of toxic nectars, into my inebriated soul, the transcendental hypostatization of her idealized femininity contaminated my sensibility - forevermore!

I give fair warning: this sort of mental exercise is dangerous. Reconstructing any representative of the attracting gender in mirror-image is the quickest route to sexual folly. Ever does the wasp of desire hover within striking range , indefatigable in its vigilance, seeking every opportunity to ram its sting into our hypothalamus.

On the other hand, married couples who, perhaps, have fallen out of love , might think about experimenting with some form of deep meditation on the refashioning of each other in mirror image. Let them sit down face-to-face . They should breathe deeply, after which they can begin describing to one another all the maneuvers involved in moving each other's bodily parts from right to left, and

conversely. Especial attention must given to the eyes; they may cause exquisite and agonies . If, after three such mirror-inversion sessions , both husband and wife aren't sex maniacs, one can't imagine any option other than divorce.

It must have been about 15 minutes before I awoke to find Felicia hovering over me, her face drawn with anxious concern. I looked at her ; our gazes blended insensibly into one, our eyes each drowning in the limpid pools of the other. There was an ill-fated locking of minds, fiendish and tragic. All about us, the world blackened to spiritual nightmare. In the desolate wilderness of our fixated symbiosis there resounded the wolf-howl of the abyss.

In desperate confusion Felicia gathered up her books and hurried out of the drugstore . I buried my face in my hands and wept. I needed 3 cups of coffee to pull myself together. An hour later I walked back to my dorm room, lay down naked on my bed and, steeped in the intensity of Felicia's presence, masturbated twice to orgasm. I'd kept count: this was the 78th time since the age of 10, though never beneath the paralyzing aura of passionate love. Shortly afterwards I fell into a deep sleep. The nightmare was long, terrible and beautiful:

.... sitting naked on the edge of a sheer cliff face descending into a deep chasm, the valley floor obscured by polluted mists.... the air at these high altitudes is refined , murky, turbulent ... a sensation of immersion in filth. .... hot

ash and cinders whirl about the noxious eddies , suffocating , scalding .....

Unfriendly crustacean creatures crawling over the rocks ... biting, pinching ..... my body covered with burns...Pain everywhere! ... writhing and howling in torment, helpless to relieve my condition....

...Hair...Hair....growing from everywhere, out of my pores, through my skull and limbs, soothing my pain... sleek, black, glossy hair, overflowing onto the surrounding plateau sand down into the chasms . It wraps itself about me like a magnanimous carpet, opiating, comforting. It heals my wounds, dissolves my suffering ...

Fissures open up in the cliff ,... A pleasant tingling in the gonads .....

Cut! To ....an oppressive room in some small town, homely furnishings, crass wallpaper. A wild , frothy party .. I circulate in a sparkling jacket covered with glinting sequins , gaudy trousers... many people , a few familiar faces ... other in vague outline ..... Everyone in the room is throwing things at me ..... cracks open in skin, blood flows over my body...

...Flying through the chasm, cutting myself against glassy walls , crashing to my death! Black thunderclouds cover the sky.

At the moment my body hit the ground I pulled myself frantically erect. It was 10 P.M. Four hours had passed since entering the room. I was suffocating; sweat poured down my face . Irritating my lower belly was a large glob of caked

come. Throwing aside the covers, I sprang off my bed, staggered to the window and vomited into the night.

My dorm room was on the fourth floor of an impressive long and sinister Victorian Gothic building. As it turned out my vomit which, under the normal action of gravity should have hit the ground in a few seconds, was destined instead to be intercepted by the night watchman just then coming on duty. In such a fashion did I share the ecstasy of my first white night!

Scraping some of the vomit off the top of his head, he swore: " What the fuck -! " . He examined it ; his mouth dropped open in horror. Another curse. Then he craned his neck up in my direction:

" What the hell's going on ??! " he yelled, but I'd already pulled away from the window and was scrambling into my clothes. It is a pity that the opportunity to absorb the important lesson, that all love, even the most sublime, has its sordid underbelly , was lost, and it took many years for it to be assimilated. Too inexperienced to acknowledge the inevitable, I merely cursed my bad luck. Dashing out of the room and slipping out the back door of the building , I headed towards a neighborhood all-night diner for a belated supper and much intensive soul-searching.

Of my love for Felicia there could be no doubt whatsoever .... although, of course, some doubt had to exist, for according to Descartes even our existence is uncertain until we begin to doubt it...and even then... David

#137...

Hume's analysis of causation may occasionally serve as a consolation for unhappy lovers. How does one know that one really loves the object of one's affections? One don't know of course , one just thinks one knows. Even granting that much, how does one know that the love one feels for the other fellow creature is caused by that fellow creature? I dare anyone to prove the existence of a necessary connection. Might it not be the case that the beloved, and our love for the beloved, constitute independent phenomena with no causal connection worth speaking of? Think along those lines long enough, and you'll end up never feeling anything for anyone.

Fortunately my anxieties were quickly focused on the universal concern of normally constituted human beings at such moments: the next step .

She was too old for me. I was too young for her. What else is new? Both sides of this stale conundrum have inspired opera, popular song, saga, folk tale, legend and cracker-barrel philosophers since the men of the Cro-Magnon epoch stalked their wives through the caves.

I reminded myself - as briefly as courtesy requires - that a third party was involved, one who'd already staked a prior claim. This tedious annoyance was summarily debated and as quickly dismissed. When has true love ever taken such trivia into account? Frank Kriegle was a destructive, anti-social nut. It flew in the face of all notions of justice that he should succeed where I failed. It shouldn't be that difficult

to bring someone as intelligent as Felicia around to my point of view.

The age barrier was another matter. A formidable obstacle, yet not insurmountable. She was 24, I was still two months shy of my fourteenth birthday. On the other hand our emotional ages were about the same. Hadn't the great contemporary Russian mathematician, Andrei Nikolaevitch Kolmogorov, stated that mathematicians never grow emotionally beyond the age at which they discover the joy of mathematics? We liked the same things, thought the same way; regarded the world and the people around us with the same intensity and at the same abstract distance. Our perspectives were equally shallow, our addiction to obsessive rumination equally limitless.

The obstacles separating us were therefore largely physical, that is to say sexual. Well, I told myself, consider this : it is virtually an axiom throughout the living kingdom that bodily organs develop with use. Muscles grow tough and strong with exercise, thigh bones swell through jogging; calluses harden with manual labor, unbelievable dexterity on musical instruments results from long practice. This observation, combined with arguments of unassailable logic, convinced me that whatever disparity there was between Felicity's sexual development and my own was caused by her more extensive exercise of the organs involved.

#139...

By the time the diner closed late at 1 P.M. , I'd concluded that it might be possible to catch up with Felicity through a rigorous and structured program of masturbation over a period of, say, two months, after which - but not before - I might think about making my intentions known. In the meantime it was of the utmost importance that she know nothing of my attachment to her.

Writing these lines I realize that they must sound a bit strange to others, and can't help thinking them a bit odd myself. By every account we seem to be dealing with a uniquely bizarre variant of the traditional doctrine of sowing one's wild oats: in the 19th century the scions of the rotten classes used similar arguments to justify their activities with prostitutes and maids.

Now I realize that my strategy was based on an erroneous theory of animal development. Given that , in all other respects the comportment of the sex organs always goes contrary to that of every other corporeal gimcrack , their development is enhanced not by the gratification of their natural inclinations , but through their frustration.

(If one insists on laboring the point, I will concede that my lame rationalizations were merely a pathetic means permitting my juvenile unconscious to assert its devious will to power. Let us grant that, in fact, I would have masturbated a whole hell of a lot at that stage in my life, even without cooking up some silly argument to justify it.)

#140...

I did not procrastinate in putting my plan into action; it was launched with a stated goal of three masturbations per day. It often happened that I didn't have the strength to persist beyond the second . On really stressful days it was hard enough to get through even the first one , although I never turned in for the night without seeing it out to the bitter end.

It wrecked me, of course, yet I derived some consolation from the recognition that the ordeal was for a worthy cause. Nothing of any value can be accomplished without sacrifices. The number of masturbations was totaled up in a private notebook. My calculations were based on the 78 times I'd jerked off since age 10. By reasonable estimate, another 200 over the next two months should add 9 years to my sexual maturity, enough to close the somatic gulf dividing us.

A month after making the resolve, with full acceptance of the risks, to enter into this novel way of life (which, in analogy to Felix Klein's Erlanger Programme of basing all of Geometry on the properties of transformation groups , I dubbed my Felicia Programme) others began noticing that my behavior was becoming increasingly erratic. The most immediate symptom was the marked intensification of my normal introversion. Strange reports began filtering back to the mathematics department: I'd often been seen, walking about the campus with my briefcase bulging with books and papers, muttering to myself and gesticulating in wide arcs.

Sometimes I'd lie down on the grass, or even on the pavement, and thrash about. just as suddenly I would be up on my feet again running off for no discernible reason.

Afternoons often found me in the cafeteria of the Student Union in the company of friends and associates. In this, my natural milieu, I somehow remained in a world apart, scarcely aware of what others were saying to me, capriciously breaking into silly giggles or throwing out wild, threatening remarks directed to no-one in particular. I'm sure some people were afraid of me, though most of them merely thought me a bit odd.

These patterns of deviation from "normative comportment in genteel society " - (a synonym for the purpose of a college education) - reached their apogee, one will hardly be surprised to learn, in Kriegle's classes on Exceptional Logics. A climate of terror emanated from my vicinity as, at random, I fixed individuals with hardened stares in which no purpose could be discerned. I hurled my arms about in a disjointed manner, or rocked back and forth, davening like a Yeshiva-bucher , leading many to suspect that I urgently needed to rush to the bathroom yet was afraid to do so lest I miss the details of some important theorem being demonstrated on the blackboard.

Needless to say, Frank Kriegle noticed absolutely nothing. So strong was he in his belief that he'd monopolized the role of class nut, that it took a very long time before he was able to recognize that serious competition had emerged.

Not so with Felicia. My comportment in her presence was guaranteed to cause her intense misery. This was not deliberate on my part. It just so happened that I went completely out of control in her vicinity, thus providing the opportunity for the more aberrant tendencies of my psyche to take command. We still sat next to each other. If she looked in my direction I turned my body away and refused to address her. This was temporary. My face, returning to confront hers, was screwed up into a mask of such concentrated agony that her horror quite outdistanced her pity. Her pen might then drop out of her hand, or her papers fall to the floor. While she trembled with fear, I followed up my performance by a train of forced and sinister chuckles. They weren't directed at her of course; they weren't directed at anyone. But how was she to know that?

Once in awhile I got a glimpse of her around campus. I never tried to follow her. Rather I would seat myself on the nearest bench and glower
at her from a great distance, my face burning, eyes all aflame, slave to a passion that could never hope for release, never allow itself to become articulated, causing nothing but suffering, yet which had become the sole focus of my existence.

After I'd fallen in love with her, we'd stopped meeting at the drugstore. However, there were a few occasions on campus when she worked up the nerve to come over to try to talk to me. I was off in a flash, disappearing around the

nearest building or running down the street. At the 4 o'clock teas in the math lounge I stoically feigned ignorance of her presence while speaking to everyone else in short ,senseless bursts , usually with a hostile edge to them, accompanied with gestures tinged with the fanaticism that now infected everything I said or did.

Like the devotee to some ghoulish cult, after every contact with her, however superficial, I would rush back to my dorm room, tear off my clothes and masturbate cruelly to exhaustion. Afterwards, fiery dragons infesting my brain, I would fall into a tortured slumber which, though its nightmares brought some excitement to the lonely and dull state customary to frustrated passion, did nothing to relieve my suffering.

At the same time I'd become prey to excessive morbidity. One of my prize possessions was a recording of the first 5 symphonies of Gustav Mahler. I fell into the habit of keeping them on the record player from morning to night, playing and re-playing all 5 symphonies in succession. This might go on till midnight, forming a constant backdrop of which I soon became unaware but which had a decided influence on my state of mind.

I read extensively, historic accounts of epidemics, famine, genocide and atrocities. Medical anomalies and bizarre medical practices, particularly in the treatment of the insane, fascinated me for hours. Prey to obstinate compulsion I re-read all of Shakespeare's tragedies,

including Titus Andronicus , four times, and The Brothers Karamazov five times. I forced myself to read and re-read Thomas Mann's Dr. Faustus even though I hated it, because for me it represented the pinnacle of morbidity.

After that it was the Lachrymosa of Mozart's Requiem . It's not very long, yet replaying it 50 times in an afternoon might be considered over-doing it. Immersed in its outpouring of bitterness and grief washed over me, I sat on the side of my bed, my face buried in my hands, weeping my heart out. The Brahms Requiem may also have figured among my obstinate obsessions. I can't remember everything

Some temporary relief from my condition of spiritual wretchedness was discovered in an ambitious research project in mathematics, an undertaking involving hours of dull computational labor, hopeless from the outset. A certain amount of productive spin-off often emerges from such projects, so they aren't time wasted: Fermat's Last Theorem is a good example. In March of 1949 I boldly attempted to devise an algorithm on the digits of the decimal representation of an integer that would provide a sufficient condition for its being a prime.

Such algorithms exist for simple divisibility: if an integer is divisible by 3 or 9, then the sum of its digits is also divisible by 3 or 9 respectively . If divisible by 11, then subtracting the sum of the digits in even places from those in the odd places will equal zero , or another number

divisible by 11; and so forth. In general , given any particular divisor, one can use modular arithmetic (the arithmetic basic to the clock and calendar) to determine whether or not a number k has that divisor as a factor. In general this is a fairly rapid process.

It makes sense to inquire into the converse procedure: given that it is so easily checked to see if some number p divides another q , is there a way of showing q can't be divided by anything? At the very least there should be an algorithm above a certain cut-off number N, which shows that q is not divisible by any prime greater than N.

The problem is two-fold: finding the algorithm, finding the cut-off number N. After weeks of intense labor I was able to show that N must be greater than 13,495,327,852. Then the algorithm I finally came up with involved no less than 300 distinct operations per digit! Undaunted, I set about testing its validity for a set of eight huge integers satisfying certain criteria. If these number did turn out to be primes, I could publish the result in some out-of-the-way journal and await more confirming evidence. Even the uninitiate will already have, I think, some notion of the enormity of the project. Already unmanageable from the outset, I found ways of turning it into a veritable Augean stable. That my mental and even physical state were dangerously overwrought was now apparent to everyone but myself (discounting totally self-preoccupied mathematicians like Kriegle and others) . I was convinced that everyone hated

me, that Felicia wished me dead, that in fact she and Kriegle were already working on a scheme to murder me. Excessive masturbation had destroyed whatever little mental coherence I'd started out with, both mind and body being enfeebled to the point of collapse.

A direct consequence of my state was that I couldn't carry out a single page of calculations without making 20 mistakes in arithmetic. A silly mistake on Monday might not be discovered until the following Saturday, but it could invalidate the work of that entire week. The memory of the frenzy with which I once tore up 150 sheets of worthless calculations and burned them over the butane burner of the hot plate I kept in my room will never go away. Nor will I forget the tidal wave of despair that washed over me immediately afterwards, ruining my capacity for work for 2 weeks.

Months passed. It was now the beginning of May and I'd only gotten half-way through the algorithm for the first of my 8 test cases . Since the algorithm provided a sufficient condition only , a negative result gave no information. And there was no guarantee of a positive result. Rough calculations indicated that if the algorithm should fail to show that my first number was prime, I would have to push up the cut-off integer N by as much as a trillion. Computing that number would involve yet another algorithm which, by a quick estimate, entailed 723 calculations.

#147...

The discovery was made at about that time, that an infantile mistake in arithmetic, perpetrated on the very first day of my project (7x8 = 53) , made rubbish of all the work I'd done up to that point . It was at that very moment, April 19, 1949, that my essentially benign, merely speculative fantasies of suicide, suddenly turned malignant, pushing that final option to the forefront of my attention.

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Chapter 8
Disorder and Early Sorrow

It is a staple of Philadelphia folklore that Fairmount Park, beginning at the Parkway and going north to Germantown and Cheltenham, is the largest stretch of wilderness within the precincts of a big city anywhere in the world. This may in fact be the case, although over the past century so many cities have been reduced to wilderness that the very distinction between 'city' and 'wilderness' may be out of date.

Wissahickon Creek runs through the park at the north end. The bridge over this creek is a legendary lover's leap. Philadelphians intent on a lugubrious exit from an unhappy love affair immediately think of the bridge over the Wissahickon as their first option.

Given my extreme state of derangement, I had neither time nor energy to work out elaborate preparations. This made a jump off the Wissahickon bridge particularly simple and convenient. Little more was needed besides a rope, a heavy stone to serve as a counter-weight, and unflagging determination. The janitor at the dorm gave me the rope after I told him that it was needed to keep my bookcase from falling over. Once inside the park, a rock could be selected from the myriads laying about on the ground. The next day I boarded a bus to Germantown that would deposit me off a few miles from the bridge.

#149...

A rock that was neither too heavy, nor awkward to carry was quickly found. The rope was looped around my neck and secured with a simple knot; there would be time enough to knot the other end about the rock. I had no doubts concerning my total lack of confidence in my capacity to work up the courage to throw myself over the parapet: the vision of my body breaking to pieces over the rocks in the shallow creek was all too vivid. My plan had been designed to force me out of my natural reluctance. By throwing the rock horizontally away from my body, the added assistance from Universal Gravitation would lift me up and over the concrete banister into the void. Ideally my neck would be broken in mid-passage.

Splashing along the muddy pathways , now conflated with the route of destiny, I tried to bolster my spirits with the fantasy that I would somehow be coming back in another life to avenge myself on all who had so deeply injured me in this one. Frank Kriegle would of course be the first to suffer. Then Hans Mengenlehre, against whom I had no grievances, but whose job it was take the brunt as representative for Mathematics. Dean Hardball could stand in for Zelosophic U.

My high school would be burned to the ground; nobody would escape. Drs. Baumknuppel and Fraulein Zwicky would be roasted on slowly rotating spits as I charred marshmallows over their sizzling flesh. My parents would be forced to swallow reptiles until they choked to death. In trying to conjure up appropriate tortures for Felicia herself

a kind of blessed narcotic slumber enveloped my consciousness like a soft, comforting drizzle.

By the time I'd recovered my state of smug satisfaction had been completely undermined. I didn't want to torture or murder anyone; the very thought filled me with aversion. At that point I simply broke down, collapsing on the roadway and saturating my limbs and light spring garments in the sea of mud left over from recent rainfall.

Then, when I resumed my march to the bridge, thoughts broke in from another quarter. A ceaseless din of on-going computations churned inexorably on the raw substance of my shattered nerves. Victim to its compulsions, like a computer on overdrive, my brain was relentless substituting 56 for 53 everywhere on all the hundreds of pages of equations and calculations retained in my memory, then storing the results somewhere within its complex folds for use in some future lifetime. Into the symphony of hate, self-pity, guilt, confusion and terror that resonated within my soul, these long strings of inane calculations broke like the disintegrating warbles of a cracked bell. One minute I could be observed flinging my arms in every direction, weeping and shouting " Felicia, I hate you! I hate you, Felicia ! " The next would find me muttering under my breath : " Take the 5th number in the 3rd column, multiply it by 37, add 56 (not 53 !) times the first 3 places, rewritten in base 13 , yet treated like a number in base 47, one gets ....."

#151...

I must once more beg forgiveness of my reader. Indeed it is beginning to look as if I will have to ask forgiveness for asking for forgiveness so often! All the same, my acute sense of responsibility as an author compels me to interrupt this narrative once more, in order to offer up a few more generalizations about the nature of mathematics and mathematicians.

High-level research in modern mathematics is the exclusive domain of obsessive-compulsives. This reality is well understood by persons in the profession although unknown to the general public. The sublime ambition of uncovering a few more eternal truths about the nature of the universe does not, in itself, supply sufficient motivation to inspire even the most dedicated of human beings to drudge through endless hours of odious calculation and re-calculation , or sit for hours cramped over a desk manipulating long obtuse columns and tables of numbers, subscripts, indices, parameters , formulae, algorithms and so on, at a time when so few hours of precious sunlight flood the parks and, eagerly chased by the winds of autumn, russet leaves whip along the roads .

Watching a mathematician at work , appalled by the lunatic gleam in his eye, the hand palsied by writer's cramp, a face prematurely haggard , his breathing brought to a virtual halt , one brings to mine some miser, some conception of Molière or George Eliot who , with all the glories of Nature on the other side of his door, sits alone in a

dark, smelly room counting and re-counting his gold by dim candlelight.

One gets little sense of a person motivated by some higher calling. Nowhere, in fact, is there any meaningful purpose in sight. What drives him, what drives all similarly obsessed and wretched beings , is the potent anaesthetic delivered to heart and mind by any frustrating, laborious and monotonously repeated activity, mixed with slight variations from time to keep it from becoming altogether dull. One's hope is kept alive by that occasional inspiration coming out of nowhere, arousing a delirious sensation, however brief, of transcendent ecstasy.

Like a moth to the flame, many a mathematician is fatally attracted to the solving of problems with many opportunities for making mistakes, obliging him to retrace his steps over and over again. His soul is at rest only in a Sisyphean Hell. One finds a make-and-break circuit in every mathematician's intellect that functions like an electric bell that never stops ringing. If one is lucky, the mind's own revulsion at its own operations will trigger a vortex in thought, wherein enormous batches of numbers, variables, predicates, postulates, axioms and so forth , are centrifuged to produce a sediment sinking to the floor of consciousness, from which there emerges something that may be called a theorem, lemma, scolium or, at the very least, a conjecture of some sort.

#153...

One dares not allow the process to stop before one's resources of psychic energy have been completely exhausted. Yet sooner or later the crash is inevitable. When that happens it may, more often than not express itself in some terrible form of release, debauchery, alcoholism, sporadic violence, suicide. Herein one finds yet another advantage of the computer over the powerful, albeit fragile brain. Once its work is brought to an end the computer doesn't try to kill itself.

Lugging feet, heart, computations, rope and rock, I ascended the slope of the hill that gave access to the steps leading onto the Lover's Leap bridge, a wide, aqueduct-like structure whose feet squat in the trite eddies of the diminutive Wissahickon Creek. Gasping for breath I sat down to rest. My heart beat violently . Cruel spasms twisted my body. Laying the rock on the ground, I watched in mild amusement as it tumbled down the slope of the hill into the creek. In a moment it had become indistinguishable from thousands of others; yet one more evidence of my incompetence at everything, even the simplest suicide! I buried my head in my hands and wept:

Felicia, I cried, Felicia: why are you not here to save me? Your face, your voice, your tender palms resting, even momentarily, on my shoulders, your life-restoring breath coursing across my cheeks like a torrid tropical breeze, your eyes like midnight stars , like limpid pools filled to

their depths with love ! Just to see you, nothing more - any one of these things would be sufficient to countermand my tragic resolution, to renew my will to live , to furnish the courage to forge , once again, the blind illusion of some meaningless meaning in the pointlessness of the world's utter pointlessness!

Felicia, Felicia! I love you, I love you, I love you, I love you! I die loving you! If it is so destined that you should see the splattered remains of my body, how will you respond? With remorse ? Or disgust? Will you be moved to caress these broken bones? Will you, in your grief, rend your garments, shave your head and smear ashes over your face? Will my final act of desperation inspire you to discover some theorem in mathematics that will immortalize your name ? Or will you, taking your bliss on the cancerous breast of Frank Kriegle, as his toxic fingernails dig into your back and his nicotine reek glides up you nostrils, feel only a sense of relief from being rid of some dreadful bore ?

Like the slight crack in a glass vase that indicates the beginning of its dissolution , the darkening of the sky heralded the approach of evening. I had to accomplish my task at once or pack it in for the day. As my steps labored mechanically up the remaining arc-cosines of the steep incline, I felt driven by a demon outside my own body. I stood for awhile in mute contemplation of the situation of Aleph Randal McNaughton, not without irony. Crawling in disjointed lurches like a caterpillar over a leaf, was he not

nothing more than an evolutionary error moving instinctively to its own self-destruction?

After reaching the final wide block of stone giving access to the surface of the bridge I pulled myself to a standing position and looked around. The evening haze was just settling over the trees. Never before had I realized how beautiful they were. Philadelphia, Zelosophic U. , all my tortured relationships were like the reflected light from some distant star, nothing more. Could I not leave all that behind and take solitary refuge in some lovely woods like the ones spread out before me. I sighed? My mind was made up and there was no turning back.

With my first tentative steps onto the concrete walkway I was brought me to a complete halt. Was this not some illusion conjured up by all the evil of this world? Some infernal hallucination mocking me at the brink of my immanent destruction? Yet another ingenious torture expressly designed to embitter my final moments? Or merely the confirming evidence that I had indeed lost my mind?

For Felicia was there, after all! She was standing near the bridge's center, leaning over the parapet and weeping without restraint into the murderous void. This was no hallucination, of that I was convinced. My imagination was much too overcharged with oppression and gloom to so powerfully reproduce her presence. She'd put on her red flower-printed dress for the occasion, like a lovely bouquet

awaiting its baptism in blood. Bare-footed, she'd removed her shoes and placed them beside a stack of books and papers on the concrete pavement. Her long black hair, swirling about like a tangled mop in the wet breeze, had fallen over her face, casting, as it always did, it's diabolical magic on my senses .

By stepping out onto the bridge I had set up a longitudinal wave propagating between the two endposts. Startled, Felicia looked about in terror . From the amplitude of her reaction one would imagine that I'd prompted cascades of torsional oscillations like the ones that destroyed the Tacoma Narrows Bridge on November 7th, 1940 .

Then Felicia recognized me. she let out a cry of despair, or so I imagined. The look in her face was absolutely horrid. I sensed her vacillation between the urge to destroy either herself or me, as well as an inability to decide which to do. Then she staggered back onto the roadway before collapsing to the ground. I had to grab onto the banister to keep from falling myself. Responding to a mutual panic, we each ran off the bridge in opposite directions.

I didn't stop running until I'd reached the outer edge of Fairmount Park, where I boarded the next bus back to the campus. A hassle with the driver over my not having the exact change was good for me; it helped me also to have to solicit change of a dollar from the other occupants of the bus, most of whom were black, that is to say, from a world

one never saw around Zelosophic in those days. The remainder of that day is a total blank. It must have been one of the worst in my experience.

The next morning, as if nothing had happened, I showed up for the class in Exceptional Logics. Felicia wasn't there; Frank was his usual self, that is to say impenetrable and deranged. He gave the impression of being totally unaware of recent events. This was not the case. After class he took me aside in the hallway and informed me that if I continued to push my attentions on his fiancée he would murder me .

This new development left me utterly dumbfounded. I'd been going around for weeks under the impression that Felicia was scarcely aware of my existence, let alone my passion for her. It had been part of my design to keep her in the dark until I was ready for her. Yet Frank insisted that on numerous occasions I'd made improper advances at her , compromising remarks, even passes ! She'd reached the breaking point. Frank felt it necessary to emphasize to me that she found me unbearable.

I told him point-blank that he was lying.

" Aleph, you little shit! Are you calling me a liar??!!"

" Only by Russell's Axiom of Extensionality." I squeaked. Then I reminded him of the Cretan Paradox of Epimenides. Frank became very agitated. He started pacing up and down the length of the hallway. On the third time around he shook a finger in my face and swore:

"You'll regret this, asshole! You'll regret it!!"

His exaggerated pacing continued. On the next approach he yanked my left ear. I punched him in the stomach. My punch couldn't have amounted to much. I've never been very strong, and was still only a kid of 14; yet Frank doubled over automatically as if in response to a stabbing pain. Folding his arms across his stomach he roared:

" I'll make you pay for this, Cantor! Don't you dare show your face around here again! "

Upon which he made a running tackle, picked me up, and threw me up against the wall. As my body slide to the floor and lay sprawled, face downwards, he covered it with stomps and kicks. Hans Mengenlehre and two grad students ran out of the math department office and pulled Frank away. An ambulance came and took me to the University Hospital, where I was treated for two broken ribs, a broken right arm and numerous bruises. They kept me under observation in the hospital for four days. For the next few weeks my right arm was covered with a splint and my chest encircled with a thick bandage.

I was sent home on the weekend. Hans called me into his office the following Monday morning. After we'd seated ourselves, he indicated that he was inclined to be sympathetic to my side of the argument. Could I tell him the story in my own words, starting from the beginning? It was easy enough to start, yet soon I found myself meandering

about in my delivery until I was entirely lost. While attempting to give the impression that Frank was making everything up, my manner was thoroughly distraught, unhinged is not too strong a word, mixing hysterical outbursts at the simple mention of Felicia's name with strange vacancies punctuated by sobs. Hans, who had begun by believing Frank's excessive jealousy a distorted product of his own twisted imagination, now realized that there was probably something to it.

He waited until I'd calmed down before speaking. He began by cautioning me that it was unwise that Felicia and I be seen to be spending too much time together. She'd taken a leave of absence for the rest of the term. She was also dropping out of Frank's course. Her nerves were shot. Hans seemed to me to be implying, not too subtly, that this might be at least partly due to my harassment. He insisted all the same that the maintenance of a peaceful environment in the mathematics department required my continued attendance at Kriegle's lectures in Exceptional Logics.

Galled more by his tone of voice than by anything he was saying, I stood up to my full height. With the air of bravado quite in keeping with a love-struck adolescent I waved aloft the cast - it was the best I could do in terms of the spontaneous production of a gesture of defiance - and swore that either I be allowed to see Felicia, or I would run away from Philadelphia and never be heard from again.

The threat worked. Mengenlehre was thrown into the wildest confusion. It is not overstating the case to say that his entire universe was collapsing before his very eyes. The ship of state of Mathematics, so skillfully guided up to now between the Scylla of the departmental genius and the Charybdis of the departmental marriage, was cracking up on the rocks of puppy love! He reached into his desk drawer and pulled up a bottle of Tranquilizers; taking 3 for himself he gave me one. Take it easy , he said, lowering his voice: there was no reason why I shouldn't see Felicia as much as I liked. The embarrassment I was generating around the campus was caused, no doubt, by the crudeness of my tactics. Everyone connected with Zelosophic knew I was in love with her.

This surprised me very much at first, yet Hans was able to supply numerous examples of my recent behavior such as to leave little doubt in my mind that he was right. He reminded me that, just the week before, I'd been seen on the lawn in front of the administration building, rolling around in the snow, rubbing it in my face, scratching myself and crying "Felicia! Felicia!" I did in fact recall the incident, but hadn't realized anyone else was noticing.

All the students in Frank's class had come to him with reports of my scandalous behavior. Many were convinced that I was having an affair with her. What prompted this opinion was the extremes to which I'd been going to give the appearance of avoiding her. Hans passed across to me a

written complaint form stating that I had once stared at her obsessively through all 45 minutes of the class! He put it up to me: how should be interpret such stories? What conclusions should he be drawing? What sort of action should he take. These were genuine questions, and he had hoped I might be able to supply the answers for at least some of them.

It was the moment I'd been waiting for. With no traces remaining of my former confusion, I related the story of the fortuitously interacting suicide attempts of Felicia and myself at the Wissahickon Bridge the week before. Mengenlehre sat there stunned, much like a mammoth who has seen the Ice Age coming and suddenly slips on a glacier. He sat completely in complete immobility for so long that I began to get nervous. With the intention of cheering him up a little, I suggested to him that departmental unity could still be maintained by arranging that Felicia be married off to me.

He didn't move a muscle; Hans' psyche had congealed into a catatonic trance. I waved a pencil slowly across his field of vision: the pupils stayed fixed. It was the moment to tip-toe out of the office and gently close the door behind me. I knew I didn't want to be there when the fit wore off.

Over the coming weeks life recovered an appearance of normalcy. I abandoned my mathematics project as an exercise in futility. Bob Boolean and I discovered that we liked each other. We began a joint project in Additive

Number Theory which culminated in 2 minor communications to Princeton's Annals of Mathematics .

Hans insisted that Frank and I shake hands in public. Although I was still required to attend his class, we avoided one another as much as possible. Both Frank and I would have preferred me to drop the class altogether, but Hans passed by almost every day just to observe my continuing presence there.

He did not come alone. The individual accompanying him was a short fat man in his early 30's with thick spectacles and a goatee. He wasn't from the department and I doubted that he was even on Zelosophic's faculty. It cannot be denied that he made a decidedly unpleasant impression. I sized him up as the sort of person one imagines standing in front of a mirror for hours, picking out nose hairs with a tweezers.

After Hans stopped coming altogether this man took his place. He sat in the back of the class, industriously taking notes, which was enough to show that he wasn't there for Exceptional Logics. The rest of us spent most of the time staring at the blackboard dumbfounded.

I'd caught on right away: Hans had called upon the services of a staff psychiatrist from the University Hospital to straighten out the Math Department's Oedipus Complex. As expected one morning after he'd attended 3 classes, he approached me and introduced himself. His full name, emphasizing title, was Doctor Stanislaus Weakbladder. He

would be happy if I would just call him Stan. Could we set up a time and place for an appointment? He'd already discovered a number of insights that could help me over some of my personal difficulties.

Obviously this was not merely a request, he was giving me marching orders. I suggested that we meet in the cafeteria of the Student Union later that evening. He didn't think that would work. The revelations he wanted to shared were too delicate to be aired in public. His counter-proposal was that I come to his office the following morning.

I roundly told him to go to Hell: I'd had my fill of experiences with psychiatrists in their offices. Finally we worked out a compromise: the second floor of the Student Union held a number of conference rooms. They were almost always deserted after 5 PM . I could deal with that: if the occasion arose I could always yell for help.

When Weakbladder showed up that evening around 6 he was carrying a briefcase holding the notepads he'd written over in class, a stack of clinical files, and books filled with the usual nonsense. We entered one of the rooms and made ourselves comfortable. Weakbladder made some attempt to ingratiate himself before coming to the point. He expressed the conventional admiration for my achievements at so young an age. He even dropped his guard so far as to express his personal opinion that Freud's psychotherapies were not designed to work well with really intelligent people. Such people preferred to figure things out for themselves. In

dealing with subjects like Kriegle and myself, he generally presented them with his findings and allowed them take it from there.

Already he was able to tell me this much: Frank Kriegle was a paranoid with latent homosexual tendencies and a severally repressed Oedipus Complex owing to an exaggerated fixation on a misogynist father figure. I suffered from basic penis envy. My manic-depressive psychosis was only a symptom of a far deeper malady. He'd seen many cases like mine. His expert opinion was that I was in an advanced stage of schizophrenia and should have been institutionalized when I was 8.

He didn't know anything about the woman involved in the current "imbroglio" (his exact word) , but he figured she had to be pretty screwed up as well. Weakbladder stopped talking for awhile and looked at me in silent anticipation. I didn't really know how a manic-depressive in an advanced stage of schizophrenia was supposed to react. For want of anything better, I asked him how my learning all these things about myself was supposed to help me.

Weakbladder frowned, shrugged his shoulders. I had the distinct impression that he considered it unprofessional to be asked such questions. He coughed a bit, then muttered: Frank and I were scientists . He'd assumed any sort of data would be useful to us. Suddenly I got the picture. I looked at him strangely, and said:

"Dr. Weakbladder: is there something in particular you want to know about me? "

A nymphet smile quivered to life on his pinched lips: Aha! I was going to cooperate ! Bending down, he withdrew a folder from his briefcase. As I knew without having to look at it , Case History of Aleph McNaughton Cantor , (or words to that effect) were written in pencil on its cover. The leg of his chair made a scraping noise on the planked floor as he moved it over to establish closer proximity:

" Aleph, could you tell me something about your mother?"

" All right ", I said, with an newfound eagerness that startled him:

" When she talks she only uses 3 pitches: C-sharp, D and F."

" What ? "

" That's right. Those are the only three notes anyone has ever heard her use. At the age of 3 I tested her speaking voice with a tuning-fork.

C-sharp is her loving tone. When she talks in D it usually means she's confused. F is reserved for her angry moods. She's funny that way, but that's how it is."

He wrote everything down of course, giving me time to think up new absurdities. Then he held the page up at a distance and regarded it curiously. His expression remained much the same as he turned to me with a grimace: " Look, young man. That's not the kind of information I'm looking

for. Well ... for instance ... how did she treat you when you were ..uh ..bad . How did she punish you? Did she ..er... spank you ? Did she make you stand in the corner? Did she ...uh...humiliate you in some way? "

I leaned back in the heavy chair whose dark upholstery reproduced the rest of the room's decor, and seriously considered the matter:

" No", I answered in a low monotone, as if ashamed of my confession, " All she ever made me do was close my eyes."

"Close your eyes? !' "

"Yes. Sounds simple , doesn't it? You have to try it yourself to realize how painful it can be . It's like someone ordering you to be blind for an indeterminate period. " I stared at him intently as, no doubt , his old professor in Vienna or Zurich must have done:

" Why don't you try it yourself? I guarantee that after five minutes you'll be begging me to stop."

Weakbladder scowled deeply. No doubt he'd decided that I really was crazy after all, and that it was best to humor me.

" All right, if you promise not to leave the room."

I gave him my word. My instructions to him were to close his eyes, cover them with his hands, and not move a muscle for the next five minutes. Weakbladder obliged. Covering his eyes with his hands, he rested his elbows on his knees. Once he'd settled into the experiment I reached

into his briefcase and pulled out the files on Frank and myself.

Weakbladder had either gotten his wires crossed or he was deliberately misleading me: these documents clearly stated that Kriegle was the one suffering from penis envy with manic-depressive psychosis masking terminal schizophrenia, whereas I was the one with paranoid latent homosexual tendencies and a severely repressed Oedipus Complex derived from an exaggerated fixation on a misogynist father figure. Evidently textbook Freudian psychology maintains that there is so little difference between the two kinds of lunatic that Weakbladder had gotten them thoroughly mixed up.

His theories about what was wrong with Frank were so astonishing ,that I had to be called to attention:

"Aleph : are the five minutes up yet? "

" A little bit longer, Stan; it won't be long now. The punitive aspects of your ordeal will begin asserting themselves. "

"Quite the contrary!", he chirped, " I'm enjoying this!" Yet shortly afterwards Weakbladder began to suspect I might be making fun of him. He lowered his hands and opened his eyes, to find me engrossed in the section of Frank's file with his conclusions. I nodded to him and said:

" Hold on a minute, Stan. What you've got here is really fascinating."

Accustomed as they may have been to the performance of innumerably many fine gestures, Weakbladder's flabby hands broke through the confines of habit as they reached over to tear the stack of files out of my hands. He pulled himself to his full height. Clearly he wasn't used to be treated this way. A warrior in the battle against the demons of Unreason deserved more respect. He must have swallowed an accumulation of phlegm the size of a golf ball, as he blustered:

" What is the meaning of this? "

" Beats me, Doc. That's your problem."

Immobilized by indignation, Weakbladder stared at me as I sprinted out of the conference room and ran down the hallway to the stairs.

I was delighted to have discovered that I wasn't any of the things he's accused me of being. A classic ignoramus if there ever was one.

I looked at my watch. It was not yet 7. If I hopped on a bus into the downtown right away there would still be time to catch that evening's concert at the Academy of Music. Featured as a star billing was the Venezuelan pianist, Mario Robles, in a performance of the Bartok 2nd Piano Concerto.

The program notes explained that Robles had been a child prodigy.

Listening to the superior quality of his performance led me to speculate on the sorts of problems he, too, must have had in growing up. Mathematical prodigies have a tough

time of it, as I could testify, but it can't be much easier for the musical ones. He'd given his first public concert in Caracas at the age of 8 and graduated from the Julliard Conservatory with top honors at age 13. It was gratifying to discover that none of these catastrophes had overwhelmed his innate musicality. I decided to go backstage after the concert and see if I could draw him out on this subject.

A dense crowd of concert-goers obstructed the door of the dressing room. Once inside there was another long delay, while a dozen persons in his vicinity monopolized Robles' attention. Finally it was my turn. I'd given up all hope of comparing our experiences as prodigies and settled on a handshake and possibly an autograph. Still in his 20's, Robles radiated a spirit of vitality. Next to him, though only half his age, I suddenly felt very old. To my recollection he was on the portly side, red-faced , his crop of dark hair sleek and tangled atop his head like the pelt of a muskrat. A suave and bristly mustache decorated his upper lip.

I passed him my program to sign. Pen poised in mid-air he asked for my name:

" Aleph McNaughton Cantor. Special student at Zelosophic U."

" Aleph Cantor!" The pen clattered to the floor, dark eyes flashing beneath thick eyebrows. Extending a muscular right arm he wrapped the sleeve of his tuxedo about my shoulders and strode with me to a corner of the room where we could talk undisturbed.

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" So you're Aleph McNaughton Cantor! Aleph McNaugton
Cantor ..." Robles rocked my name gently too and fro in a low, coaxing voice, as if to reassure himself that I really was the Boy Wonder whose fame had reached as far as Venezuela. I nodded unhappily with confused pride. His tone of voice suddenly became stern. His manner towards me also perceptibly hardened:

" Yes, Aleph. I'm very glad you were able to come to my concert this evening." He let go of my shoulder, " I have something very important to tell you. I am for many years a good friend of the family of Felicia de Hernandez de Montalban de Salvador! Having met you I can see with my own eyes that you are not the monster that has been portrayed to me. I am astonished that you could have reduced that poor girl to her present condition. Why, Aleph! I've known Felicia since she was a little child! Since she was - so high!" He indicated a height little different from my own ,

" Ah!" Thousands of hours of Beethoven sonatas were ingrained in the hand he held up to command silence,

" I don't want to know the details. We Latinos are not like you Norte Americanos! We value discretion.

" But I must tell you this, Aleph Cantor: you have brought great distress upon her aged mother, and to a brother whom , I fear, you will find to be a man of action at any perceived affront to his honor !

#171...

" Right now you must promise me - this very minute! - that you will stay away from Felicia Salvador! I say this for your own good. Otherwise you may find yourself in great danger, not only from her enraged fiancé - whom I agree is an ass - but also from the obligation to vengeance that you may ignite in the blood coursing the veins of one of the great aristocratic families of old Castile !"

I turned pale as a sheet of cellophane . Robles went on:

" Felicia has asked me to give you this letter. It had been my intention to make a trip out to the University early tomorrow morning, before catching the plane. This is no longer necessary. She sends you this through the generous compassion of her noble heart. It is the last communication that will ever pass between you. "

He pulled up a chair as I sat down, speechless with grief. With a gesture of authority , he shoved Felicia's letter into my trembling hands :

" ... Ne -ver ..Ag-gain ?... " I stammered.

" Never again. Young man, she is no longer even in Philadelphia! She has gone back to Argentina. Let me warn you, do not try to follow her even there, for", he bent over to whisper in my ear, " Her mother has connections with the C.I.A. !" I stared at him terrified.

" And now!" Once more a smile broke over Robles' face,

" Señor Aleph McNaughton Cantor! To show that I personally bear you no ill-will, I invite you to spend the rest of the evening with me and my musical associates at the

Russian Inn." The restaurant to which he alluded was renowned in the Broad Street theater district for catering to musicians and actors.

Mumbling fitfully to myself I nodded dumb assent. As he walked to another part of the lounge to get his coat, I followed him, shambling across the floor like an old man, broken with distress. I would never see Felicia again. She was to be lost to me forever. She was to be ravished, night after night, by that abominable brute, that salacious Yeti, Frank Kriegle! A murderous rage took complete possession of me. The will to destruction tingled in my hands like the slippery body of an electric eel, as I projected the horrible death of Frank Kriegle on the screen of my overwrought imagination.

Like some dumb, obedient Quasimodo wagging his hump, I followed Robles out the door into the sparkling ambiance of Broad and Walnut which, at that period of Philadelphia's history, was the only venue anywhere possessing even a modicum of life and charm.

The reception at the Russian Inn was lavish, so much so that it enabled me, briefly, to forget my miseries. I was flattered to be introduced by Robles to some of Philadelphia's prominent musicians, of which it has always had more than its share. [10] With each introduction he delivered a little speech in praise of my prodigious

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10**The tradition begins with Benjamin Franklin's glass harmonica and Lorenzo DaPonte's Italian academy.**

endowments. By now I was used to this kind of thing. Although it annoyed me somewhat, it was clearly preferable to being informed that one's life was in danger.

Lots of liquor was floating about the dinner tables at the Russian Inn. I was definitely underage but the musicians, many of whom came from European countries that had never instituted age limits for drinking, encouraged me to sneak a sip of wine now and then as the evening progressed. It was just enough to get me drunk, which was probably a good thing under the circumstances.

My observations on this occasion about this community have since been re-confirmed many times. Narrow specializations like music, mathematics, ballet and others produce some terrific bores in social settings. The musicians are more self-conscious than the scientists : not only do they utter their banalities, they sing them as well. The really interesting conversationalists are truck-drivers, factory workers, cooks, sailors, cops, hospital personnel. People like that. Needless to say they have problems of their own.

Shortly before 2 AM, Mario Robles drove me back to the University. His innate sentimentality had been brought to the fore by the Russian Inn's spirit of conviviality. Steering the car with the left hand, he put his right arm on my shoulder and affectionately stroked my hair.

"Ah, Aleph! You're young. You'll get over it. Love isn't what you see in the operas. La Traviata! Tosca! La Bohème ! Love is a fraud, Aleph! A fraud! It never fails to astonish me

what men go through for women." He whispered in my ear:" We men understand one another so much better ..." Soon afterwards he leaned over and slopped a wet kiss on the crown of my scalp. Apart from holding and squeezing my left hand in the final mile to the dorm there were no further incidents. Still I was only too happy when Mario left me off at the dorm and waved goodbye.

It was more than I could bear to slog my soul's bitterness up the four flights of stairs to my cheerless rooms. Nothing awaited me there but its frosty burden of memories. Dirty clothing lay in messy heaps over furniture and floor. Papers strewn about everywhere were mixed with scraps of food, cans and other garbage: the relics of a mind in chaos.

The coat was removed and dropped on the floor, the light switched on. After cleaning up in the bathroom I ended up sitting on the arm of my easy chair, gripping the letter from Felicia in dumb, wordless pain. Somehow it was opened, although I do not recall doing so. Nor was I aware of reading it until half-way through the first page. Several re-readings of the first few paragraphs were needed before I began to realize that this was among the most incredible of all the documents that would ever come into my hands. I experienced - though not for the last time - the unnerving sensation of watching the grounds of sanity giving way beneath my feet. Afterward I howled like a tortured dog for

two hours. The original letter is still in my possession. Here are the relevant portions:

May 29, 1949

Dear Aleph :

I must ask you to stop foisting your attentions on me. They irritate me. You are embarrassing me. It's even worse than you imagine: You are driving me insane!

What makes you think that just because you drive me nuts it means I want to go to bed with you? Oh no! Oh no! You can be very proud of yourself. You can boast about what you've done to me as another one of you accomplishments, you measly little prodigy worm! You've ruined my life: that's what you've done.

Here's another thing you should know : I'm going back to Argentina: just to get away from you ! Did anybody ever tell you that you're a rat and a toad. Aleph? Aleph? Are you listening to me? A rat and a toad; I want you never to forget that.

And a lousy mathematician, too. I bet I'm the first person in your whole life to

tell you the truth. You're just no good! Don't think for a moment that I'm in love with you! Oh no! Oh no! Oh, my God ! How could I possibly be in love with a worm? Take your face, to begin with. Your pimply, screwy little face, Aleph, is so repulsive that I see it even in my dreams. I'll tell you something else : I can just picture that stupid little smile on your face when you learn that I dream about you every night. Every single night! Why can't you stop bothering me? Don't you understand that I hate you? Unless I get away from you I'm going to kill myself. I don't have to tell you that. You already know everything: I did try to kill myself ! You repulsive reptile, you wouldn't even let me do that ! You're just a disgusting monster, Aleph! Did anybody ever tell you that : why were you born ?

Here - I'll tell you something else to inflate your worthless ego- you've ruined my marriage, Yes, Aleph, you really did it. You made me see just how bad Frank is by showing me someone so much worse. Now I hate him, too. Now it's all over between us. Thank you for wrecking my

marriage and my career. Maybe I'll have to become a nun. What do you think, Aleph? Should I become a nun?

What I really want to know is : what has convinced you so much that I love you ?! I think of your lips on mine and I want to throw up. I feel your hands on my thighs and shiver with disgust. And if I sometimes imagine certain things that you have no right to know about, a wave of nausea rises up from the pit of my stomach.

Don't you ever dare come near me again, you sack of shit! I'll put your eyes out, I'll tear the skin off your ugly bones! Merely the mention of your name, Aleph, Aleph , Aleph!... Aleph McNaughton Cantor, Aleph McNaughton Cantor ... Aleph Cantor ... makes me want to scream! And if I see you again, I'll never stop screaming! Oh my God, help me please !

Aleph you broke my heart. And I'm sure you don't even care.

Felicia S.

#178...

I fell asleep sitting in my chair. At dawn I was awakened by a knocking at my door. It seemed rather early for visitors. If it was some mistake, there would be a second knock. It came, this time louder and more insistent. Who's there ! I cried out,

No answer. I sat up.

Who's there ! I cried again.

The reply came in the form of a long series of loud knocks indicating that there was more than one person standing outside my door. I scrambled into my clothes.

Who is it ! I shouted again, at the top of my lungs.

An ax came crashing through the paneling. It sent me racing back to the bed and under the covers. Into the room through the frame of the broken-down door stepped two remarkably similar men. They were tall, dressed in black leather coats, with felt hats pulled down to the level of their eyes, and faces capable of admitting to any crime. They kept their hands in their pockets as they sidled across the room in my direction .

Gripping the covers more tightly about myself, I croaked:

" Who are you? What do you want? "

One of them flashed a laminated identity card , briefly but long enough for me to recognize that it was official.

" You will come with us." They moved relentlessly forward. Each took hold of an arm. Together they dragged me off the bed, out of the room and down 4 flights of stairs

to the street. My knees bent and body clattering on the stairs. I pleaded with them:

"Look ! I'll tell you what you want to hear! I'm innocent, but I'll confess to anything, anything! Yes: I killed her : for the money! You can charge me with stealing the state secrets! You can see my poverty . Have you no mercy? No pity for me? "

Visibly annoyed at my whining tone of voice, the man holding my right arm pulled out a Lugar from his coat pocket and crunched the butt against the back of my head. I passed out. They put me in the back of a long black limousine and drove away

When I came too we were far away from the city on our way to some destination in the countryside. My two captors held me in a firm grip, tightly wedged between them on the back seat. Two others, equally anonymous and depraved, were sitting up front. All of them treated me as if I weren't there. There was no way of knowing where we were going. Finally the limousine pulled up onto a dirt road and everyone got out. My hands were tied behind my back, and I was rudely pushed across a field to a clearing in the woods.

Gathered together were about a dozen people, all dressed in dark ceremonial robes. They had been waiting for me. Without being able to identify them with any certainly, several of them looked familiar.

Now a complete stranger stepped forward, a forbidding individual, incapable of smiling. He was wearing judicial

robes. His elongated skull conjured up the image of a death's head . His skin was grey and emaciated, his hair shaved down almost to the scalp. While speaking to me he had the annoying habit of picking his nose. His gestures indicated impatience, urgency, intolerance . It was clearly his intention that the business at hand be gotten over with as quickly as possible.

" Aleph Randal McNaughton Cantor! " , his bass voice droned like a recitation of Gregorian chant: " You are charged and condemned for the murder of the mathematician Frank Kriegle. You are charged and condemned for the suicide of his fiancée , the mathematics graduate student Felicia Salvador . You are charged and condemned for the crime of undermining the security of Argentina. You are charged and condemned for the crime of stealing state secrets from secret agent Stanislaus Weakbladder . "

He turned back to the crowd " I think that's enough. " A resounding "Yea !" rose from the throats of all, followed by a timorous "Yea!" from my own . Upon a signal from him the mob rushed upon me in a blind fury, dragged me to the trees and bound me hand and foot. Then everyone quickly dispersed.

Soon afterwards came the packs of hunting dogs. They crossed the fields from every direction. The first to reach me jumped up onto my chest and starting scratching out my eyes. Others tore at my feet and fought with one another to

for my arms and hands. I felt the snout of a wolf-hound burrowing its way into my navel, and I woke up on the floor of my dorm room doubled over agony as its glittering teeth sliced through my intestines. It was noon.

Thus ended my first love, tragic as such things must be for all time, and for all time to come. Felicia was gone, perhaps forever. I comforted myself with the reflection that not all of the consequences were bad: for one thing it would no longer be necessary to attend Kriegle's course on Exceptional Logics . Anyway the term was just about over.

Kriegle resigned from the department at the end of the term. He did this to avoid the disgrace of being told his contract would not be renewed. Before leaving he made one last attempt to avenge himself on me. Hans Mengenlehre happened to be in the office when Kriegle was entering an "F" in Exceptional Logics against my name . Hans insisted he change the mark to an "A" . A terrible fist-fight broke out in front of all the secretaries. I would have liked to have been there, but my parents had taken me on a vacation to Florida to help me recover from my first year in college.

Fortunately no-one was injured. I say this because, despite the wild fantasies that may occasionally surface in the heat of anger or anxiety,
I've never felt any ill-will towards any of the people in the math department. Yet there is no way one can prevent what people do to themselves. Frank's name was now mud throughout the entire American academic system. The last

time anyone learned any news about him - that was a few years ago - he'd just been granted tenure as a pre-calculus teacher in some community college in Eulalia, Alabama.

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Chapter 9
My Acculturation

Recovering from my first love turned out to be easier than one might have imagined. My sufferings were indeed intense, but they do not figure among my worst memories of college life. This distinction must be reserved for the dungeon of prerequisite courses of the undergraduate curriculum, with History of the English Language as its sunless interior and Art In Western Civilization in its lower depths .

Cyrus Yaw-Yawn ! Ah ..... A tale may be spun about him. Cyrus Yaw-Yawn was a finished product of Philadelphia's Main Line, the local term used to designate a tract through the suburbs along the old colonial Post Road which , in the main , is populated by people descended from a long line - of people just like themselves. After he finished up teaching for the day, Yaw-Yawn always returned to the Main Line. Night after night for the last 45 years he'd endured the merciless scolding of his mother, an unrepentant harridan. Once in a while he was able to get away to Europe, ostensibly for the purpose of looking at Art Treasures . Several generations of Yaw-Yawns had squatted on fathomless tanks of money, and neither he nor his mother really needed to work. It would not surprise me to learn that Cyrus Yaw-Yawn became a professor of Art History primarily to hear himself talk. His mother's formidable energies had been channeled into the rearing of

swans and sissies. Judging from the visible testimony of her works, she was very competent in her vocation.

Cyrus Yaw-Yawn lived on the family estate, really a castle in egregious Victorian Gothic taste near Wayne, Pennsylvania. His taste for the refined products of Western Civilization had been acquired through daily habitation in rooms that looked like cast-off stage settings for Das Nibelungenlied . Whatever else he'd learned about Art came from staring at the Rossetti's in the Tate Gallery in London. He'd never actually tried his hand in any division of the visual arts for which he professed such devotion. From earliest childhood his appetite for spatiality had been nourished through sitting by the lake in the park on the family estate, feeding his mother's swans and watching the sunsets. He liked talking about them in class. The sunsets that is.

At first I was inclined to give him the benefit of the doubt by presuming that the way he dressed indicated the presence of genuine artistic talent. Later I realized that his mother dressed him up in the morning as well. He looked like an expensive Hallmark condolence card. More often than not he wore either a pale grey or pitch-black suit, shirts with stiff and abnormally high collars, ties favored by undertakers, and 14-carat gold ornaments including a tie-clasp, cuff-links and fillings in his front teeth that glinted light like a neurotic prism. He was fond of speaking to his

classes with his right profile fixed in our direction: creamy-white, featureless, without a speck of stubble.

Yaw-Yawn's posture was equally strange. He managed to adjusted his body to the gravitational field in such a fashion as to almost totally avoid curves or oblique slants. Everything was either horizontal or vertical. The only limbs he ever bent were his thighs. His manner of sinking into a chair conjured up Duchamp's Nude Descending A Staircase . One felt an odd sort of embarrassment watching it: shins, trunk and arms stayed perpendicular at every stage . Certainly he must have unbent once in awhile in his own home.

He was a bore, beyond dispute. All the same, it would be mean-spirited of me to deny the side benefits of his course. For one thing I never had to worry about staying up late at night, knowing that I could always catch up on sleep in Art History. Oher courses offered the same advantages. I could count on being able to recover an average of 1 hour oe more of sleep every day that classes were in session. It became a bad habit, which may have been a contributing factor to my flunking so many subjects. In my defense I was only imitating my peers. As a teenager it was only to be expected that I would turn to my older schoolmates as role models.

Cyrus Yaw-Yawn never knew if we were awake or asleep. Since his gaze remained fixed on the side wall off to the left of the auditorium, parallel to the images of his slides

on the screen, he almost never looked in our direction. When he did, the darkness guaranteed that he couldn't see most of us.

There were occasions when something would wake me up; then I would notice a few peculiarities. Waking up once during his discourse on the Mona Lisa, it dawned on me that the slide had been loaded into the projector upside down. Blissful in his ignorance, Dr. Yaw-Yawn talked non-stop, like a locomotive with no-one at the controls, identifying what he wrongly imagined to be its salient features with a black-board pointer. It wouldn't have been worth the trouble to apprise him of his error, given that the rest of the class was also asleep. When he began comparing the Mona Lisa to some lost pre-Raphaelite fantasy on the Virgin Mother, I dozed off once again.

Flunking Art in Western Civilization 4 times must have set some sort of record, even for Zelosophic U. Despite all the time we ended up spending in one another's company, it is unlikely that Cyrus Yaw-Yawn would have recognized me on the street: the grades he gave out were based exclusively on the final exam. Four times running I forgot the time and place where it was being held. The fifth time around a friend knocked on the door to my dorm room at 6 AM to get me out of bed . Breakfast was on me; I used the time to memorize some phrases by Ruskin - from Stones of Venice perhaps - or it may have been Sesame and Lilies .

#187...

One other event in connection with Art In Western Civilization is worthy of note, a dream that came to me while sleeping through one of Yaw-Yawn's lectures in the first term of my retake of my junior year.

Between sophomore and junior years there is a gap of an entire semester , during which I was committed to Peachtree asylum. This will be discussed in its proper time. Returning to college at seventeen, I was virtually an adult. The tedium of having to attend these required courses, (including a few more rounds of Art In Western Civilization) , was relieved by the presence of a sympathetic girl-friend. "Jane" is a nice name to call her. We'd struck it off at our first encounter. Jane was a pleasant girl, her most endearing trait a refreshing indifference to all things intellectual. It may not always have been love, but we liked each other. In retrospect she must have loved me, because she enrolled with me in my most boring subjects just to keep me company.

Art in Western Civilization was taught in a large auditorium on the ground floor of the Fine Arts Building, a grotesque structure from the turn of the century, since replaced in the 60's by a generic steel, glass and concrete box with patches of kindergarten-style colorations. Jane and I always sat together; she held my hand while I dozed off. When there was something going on that needed my attention, she gave my hand a tight squeeze and I snapped to attention.

#188...

On the day on which this dream came to me Yaw-Yawn was delivering his standard take on chiaro-scuro . I'd heard the first part of it 3 times running without being able to stay awake to the very end. His choice of metaphors may have been part of the problem. Year in and year out he compared the effects of chiaro-scuro to the experience of rolling onto the fluffy mattress of a soft bed, covered with silken eiderdowns and large pulchritudinous cushions. Bathed in the warm glow of (righteously earned) slumber one sinks into it gratitude, blissfully unaware of the solidly constructed carpentry underneath .

For Cyrus Yaw-Yawn this was chiaro-scuro : forgive my eyelids for sagging! Drifting off I found myself disappearing into the peacock feather stuffing of a fabulous Oriental divan. The penumbra of lingering consciousness combined the warmth of Jane's hand in mine with the tail-end of a disturbing reflection having to do with an inmate at Peachtree.

Patrick O'Neill was a victim of melancolia religiosa . He thought he was St. Francis of Assisi, and preached stirring sermons to the birds in the lawns and the cockroaches in the wards. In my dream the birds to whom Patrick was preaching were preaching to me. As is the way with dreams, the scene segued magically into the head of a goat.

Gathered around the goat was a crowd of villagers in some part of rural India dressed in colorful dhotis and saris. The goat, our guru, stood erect on his hind feet. Somehow

I knew that it was speaking Gujurati, a language of which in my waking life I don't understand a single word. The goat was very learned, so it behooved me to stand quietly at attention. One could tell when the goat was becoming excited by the way it shook its head from side to side and wagged its beard. Evidently, also, the goat was cross-eyed, for when its beard moved, the eyes mechanically followed it in its pendulation. After its head came to rest the eyes didn't stop rolling. Although its words were directed to all and sundry, I could tell from the direction in which its front hooves were pointing that there was some particular message it wished to convey to me. Then I realized that its hooves were pointing at my left hand. To my amazement I saw a magic ring materialize on the middle finger. When the ring was twisted to the right, a shaft of blinding light sped out from the goat's hooves. I began reeling backwards through eons of time.

Now I was in Egypt, now in Sumer, now in ancient China. In each civilization I asked the same question: "What is knowledge?" Invariably the wise men took me to a library to show me their 500 sacred books, or 500 clay tablets, or 500 papyrus scrolls, or 500 engraved pillars, or 500 lotus leaves. Wherever some sort of writing existed, the scholars of that civilization pointed with pride to their 500 learned treatises.

A further twist of the ring brought me to the Neolithic age, where I was taken in charge by prehistoric tribes. By

and large their traditions were oral, though some had developed the art of cave painting. Even in that distant age, the learned witch doctors prided themselves on their knowledge of the 500 noble epics. It was the same with hominids, scarcely distinguishable from the primates, their speech little more than a sequence of guttural utterances.

I assumed that this codified knowledge would develop through the ages, that between the 500 noble epics of the cavemen and the 500 treatises of the Renaissance there would be an advancement as great, if not greater than their separation in time. Seeking verification I now twisted the magic ring to the left to begin the slow ascent of the ladder of history. Revisiting each civilization I examined the contents of its books. To my bafflement, no change whatsoever occurred in the content of learning from one age to the next. Only its outward form was modified . Students in ancient China took classes in Art in Chinese Civilization . Students in Vedic India studied History of the Sanskrit Language . Comparative Religion differed only in form, not content, in Mayan Mexico and Ancient Egypt. Sociology , or its equivalent, was a prerequisite in Babylon, even as it was in Mohenja-Daro .

It was truly amazing how little change there was in the natural sciences from one place to another. I unearthed Newton's Three Laws of Motion in Minoan Crete, and the Principle of Equivalence of General Relativity in the 500-volume Encyclopedia in the ziggurat of Ashurbanipal.

#191...

As I wandered, dumbfounded and disoriented, through the stacks of the library of Alexandria, unable to come to grips with the homogeneity of learning in all times and places, my state of wonderment was disrupted by the acrimonious bleating of the goat :

" Baeh-aeh-aeh!", it cried, " Baeh-aeh-aeh-aeh! Baeieieieieieihhh!! Baeieieieieieieihhh!!! Baeieieieieieieieieieieieieei ..... !!!"

I woke up.

The auditorium was silent, and shrouded in darkness. Jane was seated by my left, her hand in mine. She too was fast asleep. We must have slept for several hours. I extracted my hand very gently from hers , before groping my way to the panel of light switches at the back of the room. Turning on the lights allowed me to confirm what I already knew. We were alone . The clock on the wall indicated 9 PM. We'd been asleep for five hours. Our classmates, anxious to get out after another Yaw-Yawn lecture, had left Jane and myself to our intimacy.

I woke Jane and we left the auditorium. We went downtown to get some dinner, then walked back to the university, where we continued to walk and sit around until 3 in the morning. The regulations against bringing a girl-friend up to one's room were strictly enforced in those days and I didn't want to risk expulsion. We parted at the downstairs entrance and made arrangements to meet the next day.

#192...

A few weeks later Jane brought about the loss of my virginity . We needn't go into the details, which in any case aren't relevant to this story.

Well, maybe they are . Not that it matters very much.

In fact it matters quite a bit , only this may not the right place to bring it up . You've been promised a full account of the ordeal of the years of failing History of the English Language , a commitment I take very seriously. The personal stuff can come later.

No: that just isn't right. I've had time to do a little thinking about it. Get on, I'm saying to myself, with the tale and have done with it! Besides, what's more appropriate as a preface to History of the English Language than the spice and sugar of an old-fashioned deflowering yarn? Okay; but it'll have to be brief.

It was in the early spring of '51. Jane had taken me on a stroll through Cobb's Creek Park, a park on the extreme Western flank of Philadelphia with a decided resemblance to the Forest of Arden. Without warning she dragged me into the bushes. Before you can say

" Muhammed ibn-Musa al-Khwarizmi " it was all over.

This is an obvious oversimplification, you and I know that, though not by much. She'd told me right out over breakfast that morning that she intended to make a man out of me. I wasn't keen on the notion, but she did persuade me to continue our discussion over a walk in the park. The slippery slope down always begins with a single step.

#193...

Furthermore, to state that Jane dragged me into the bushes is to lean too heavily on well-worn metaphor. In fact she neither pushed nor pulled me . After announcing that she was tired of arguing with me, she began pulling off her clothes. If I refused to come in with her under the trees she said, where there was something she wanted to show me, she would start yelling and have us both arrested for indecent exposure. Once concealed from public view she presented me with an offer impossible to refuse.

I timed the event with a stopwatch: about two minutes from entrance to exit. So commonplace are the origins of empires and dynasties! In the brief interlude before and after orgasm a highly complex chain of reflections passed through my mind, the gist of which has been summarized below:

" World opinion maintains a virtual consensus to the effect that my Being is on the verge of a transformation of incalculable magnitude. This arouses my curiosity and I feel compelled to ask: does the crossing of this Rubicon really induce some irreversible alteration in my intrinsic nature? Does my essence undergo any real change? Are we not in fact dealing with an ad hoc distinction, as when governments saturate a narrow strip of land with mines, border guards and customs check-points, calling it a national boundary ?

"What am I engaged in? Had I not felt that it was time to do something of this sort, it would not have been all that

difficult to resist temptation. But am I really doing anything? Will some afterglow stemming from this act hover about me to signal to my peers my long delayed initiation into adulthood? Or will I need to boast on every occasion about this proof of masculinity, citing date, place and circumstances ad infinitum ?

"I caress Jane's tits; in the act of caressing her tits I observe myself doing so. The epidermal contact excites her more than it does me, though naturally I feel a bit of excitement as well. I have no doubt that my eyes reproduce the frightening gleam in hers. Will that gleam remain with me forever as mute evidence of my spiritual fall? Will it disappear when the tit is no longer there? In what ways do my glazed-over eyes, the puckering about my lips, the hyperventilation, the muscular movements and the blood pounding in my temples, different from the same symptoms when I lay on my cot, dreamed of Felicia, and jerked off ?

"Bathed in Jane's stale breath and sweat, spent, I hold and release ,like the escapement of a watch , the slow trickle of sperm from my loins and into hers. I have the greatest difficulty in imagining any essential difference between this moment, and those times when I invoked the image of Felicia and invented all the rest . Were I to speak honestly, those experiences were more intense, more erotic, more ecstatic, more dreadful, more deliciously horrible. How different love is from gratified lust! " (This reflection was stored away for later meditation.):

" My conclusion is that virginity ,and the lose thereof, do not refer to anything real, but are mere social fictions , contrived to guarantee the propagation of the species , in opposition to one's instinctive revulsion at the mere thought of doing any such thing."

The Meditation and the Act. Coextensive, coeval, coeternal. It's impossible in recollection to invoke one without the other.

The one inconsistency in my entire college transcript is the D I received for my first term in History of the English Language $3R^{1}$. The normal undergraduate English requirement at Zelosophic U. comprises one term of English Composition, another on Writing A Research Paper, then a year of history . Acting on recommendations from Mathematics, the Division of Arts and Humanities excepted me from the first year of the English requirement. Despite this it took 6 repeats of History of the English Language $3R^{2}$ spread out over 9 years to get a passing grade, so that I could graduate from Zelosophic with a B.Sc. in 1957. Had English insisted on my fulfilling all its prerequisites , I would still be there.

So why did I pick up a D, that is to say, the minimal passing grade, for English $3R^{1}$? It's just not possible that Dr. Phillip Grimbulge made a mistake. Alongside the grade in my college transcript Grimbulge has penciled in a comment to the effect that I deserved an F. This shows that my performance wasn't any better in $3R^{1}$ than it would be in all

the repeats of $3R^2$. Nor was the course material any easier, that is to say, any less dull, in the first term than it was in the second.

I have a nasty suspicion that Mathematics had put pressure on Grimbulge to pass me that one time. Had I flunked there would have been 3 F's on the report card of the first term of my Freshman year, which would have meant automatic expulsion from Zelosophic U. Grimbulge was never my friend, no more at this time than at any other. Passing me then kicked off 9 more years of misery. Had my college career been terminated at that point, I might, like the illiterate shammas in the old fable, be a bank president by now. [11]

After having to recycle, under duress, 11 centuries of English language and literature for 9 years, it comes as no surprise that my picture of what really happened in history should differ considerably from the standard textbook model :

Aleph Cantor's History of the English Language:
From Stonehenge to The Rolling Stones

Long long ago in impenetrable prehistory, at the time of the coming together of those ancient cultures that forged the foundations of

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11 **Somerset Maughham obviously swiped the plot from a Jewish acquaintance for his version in "Quartet".**

what, for want of a better term one may call our civilization:

There was a tribe known as Druids . Calling them a tribe misses the point. The Druids were a cabal of priests, something like the Cohens of Israel or the Brahmans of India. The Druids who came to the British Isles were missionaries of the religion of Mithraism , a cult centered on the worship of the sacred bull.

Through the application of glottochronology, Grimm's shifts and other crypto-scientific techniques, Comparative Linguistics has show that the Druids, together with most Europeans, much of the Middle East and most of Asia, spoke a common tongue dubbed Indo-European . Because the Druids needed to guard the secrets of the priesthood from the ignorant masses [12] , they invented an esoteric language whose name is lost to us, but which among the cognoscenti was referred to as their Cultish Bullshit ; Bullshit for short. Since Bullshit was designed as a dead language from the beginning, it underwent no change for many hundreds of years.

Claudius [13] unloaded the Romans on the hapless yet fortunately sparse population of England in 51 B.C.E. Suddenly all the inhabitants of the domains formerly

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12**The question of whether they were ignorant *because* the priests guarded their knowledge will not be broached here.**
13**no relation to Hamlet's uncle. cf. Robert Graves**

commanded by the Druids needed to disguise their intentions from the invaders. The Druids therefore opened up Hedge Schools for the teaching of Cultish Bullshit. The name of this language was somewhat exotic to the Romans, who mispronounced it as "Celtish British ". Thus originated, and terminated, the first phase of the development of the English language.

Well! The Romans came, saw, conquered , and, in C.E. 400, left , for which I don't blame them one little bit. The more unmanageable Druids were pushed into Scotland, from whence they spread out into Ireland, Wales, the Isle of Man and Brittany. Those deemed capable of domestication were gathered together in an abandoned Roman fortress nick-named "Lug'an dump'em " -Lugdunum in Latin and today's London. As its name implies, they were lugged and dumped in this place, which quickly became a prison . How to escape pre-occupied the best minds of England for 13 centuries, and helps explain their invention of the locomotive. The early inhabitants of London already spoke a rich mixture of Cultish Bullshit and Latin. These later diversified into the two principal dialects of the British language, Oxonian and Cockney , the former a corrupted form of Latin, the latter spoken to this day by radicals who refuse to speak the language of the conqueror.

So thoroughly steeped was the British populace in brutish ignorance that a thousand years passed during which nobody ever bothered to write anything down. This

lamentable situation might well have persisted into our own times had not the slave trade in the 17th century laid the foundations for a Leisure Class dedicated to Learning and the Finer Things of Life.

Along came the Vikings. They brought in their train a second-rate poet, Cynewulf. Churning out Icelandic sagas in Greater Scandinavia poor Cynewulf had nearly starved to death . In England he had a captive audience. Lacking anything better, the London intelligentsia stoically endured his innumerable recitations of a very long poem he'd entitled Beowulf . Almost all of Beowulf, the only literature available to England's Celts, Angles, Saxons, Picts and Danes for 600 years, has mercifully been lost.

These Nordic peoples radically transformed Cultish Bullshit. Indeed one might say that Cultish Bullshit was uprooted, pummeled, refashioned and reshaped by the bracing tidal waves from the North. They did this by eradicating it altogether. The few remaining Druids now found themselves forced to earn their bread by wandering the countryside, laden with hermetic writings which no-one (themselves included) could decipher. Yet this gave them an aura of inscrutability which they used to sell their services as astrologers, magicians, alchemists and bards to courts out in the boonies. The more opportunistic ones became Catholic priests. Later they became Anglicans. Only a few Druid words remain in modern English: the word " druid"

itself for example, and "shillelagh" , "hibernate", "estaffod" , etc.

The Anglo-Saxons introduced important words like "fuck", "cunt", "shit" and others, which have been basic English for over a thousand years but rarely show up in dictionaries. This fundamental word-hoarde, and Beowulf. That's about it. Yet it cannot be denied that the incorporation of England into the mighty Viking Empire would ultimately prove to be of inestimable benefit for the future of civilization. Instead of a hermetic society of bards speaking Cultish Bullshit among themselves, the denizens of London could now communicate with the far-flung satrapies of the Viking hegemony.

The Vikings were not enamored of belles-lettres . They were too busy plundering, raping, riding the whale-road, drinking, boasting, and so forth, to cultivate a refined taste for the arts. Only one other literary document of merit, written before the arrival of their distant cousins, the Normans, has come to light : Piers Ploughman , an insufferable diatribe in doggerel, in which a farmer, too lazy to bring in the crops himself, loafs about in the meadows all the live-long day bad-mouthing his neighbors for their alleged sins.

In the 11th century the Normans waded in from across the Channel, submerging England in a sea of blood. This new attempt to connect England to the Continent was as futile as all others, before or since. They subjugated all the

Anglo-Saxons except Thomas à Becket. They tried, but failed, to impose the French language by force. It would have been a disaster for world civilization had they succeeded, because ever since the Encyclopedists standardized the French language in the 18th century nobody knows how to speak it correctly anymore.

They also tried to impose on these sturdy yeoman peasants the insidious French doctrine of Art For Arts' Sake . Here also they failed. Ideological conformity to such foreign fancies would have made impossible such intrinsically English inventions as the banal utilitarianism of Jeremy Bentham, the pitiless logic of Adam Smith, the fatuous futility of Hume, the equally fatuous solipsism of Berkeley, the academic fatalism of Malthus, the trite moralisms of Alexander Pope, the sanctimony of Oliver Goldsmith, the atrocious taste of pre-Raphaelite painting, the dreariness of Thomas Hardy, Behaviorism, Analytic Philosophy, the atavistic jingoism of Winston Churchill, and most of the music of Sir Edward Elgar [14] , Vaughan Williams, and Benjamin Britten.

All that lay in the future. It appears that the Anglo-Saxon dough needed only a pinch of French yeast to make it bloat. Not only did the common man [15] begin thinking for himself, he began preaching, prophesying, proselytizing, promulgating, promoting, pandering and pontificating in this

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14**The cello concerto excepted.**
15**An idea which the English fancy they've invented**

new hybrid demotic. Furthermore, he began writing it all down.

If one combines the underlying Indo-European vocabulary with the shreds of Latin left over from the Roman Empire, the overload of Norman French, and the odious burden of Latinisms falsified by Oxford humanists during the Renaissance, one discovers that English is 75% of a Romance language. The rest is German, Oxonian Greekisms, scientific and technological Graeco-Latinisms, borrowed words like calico and tomahawk, neologisms of prominent schizophrenics, and journalistic monstrosities, mostly American, like "finalize", "microwavable", "moisturize", "jawbone" used as a verb, and the use of "impact" as a verb to describe any sort of influence or encounter .

In the age of Hengest and Horsa English had a Germanic grammar. Modern English has no grammar whatsoever. [16]

By the 14th century it was possible to distinguish between Old English, Low English, Very Low English, Very Old Low English, Middling English, High to Middling English, High Falutin' English, and Sweet and Sour English. The literary remains of Low English are Beowulf and Piers Plowman ; Chaucer , Richard II (under the pen name of Gower) and the Pearl Poet represent Middling English. After

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16**Proven by Noam Chomsky and Morris Halle. See" The Sound Patterns of English", Harper&Row, 1968**

that, everybody wrote in the Standard High to Middling English invented by Shakespeare until Milton transmuted it to Sweet and Sour English. Then language stayed fixed for 200 years, until the apotheosis of Post-Modern English, that is to say, American. Today's college students speak Neo-Post-Modern English, which can only be understood after watching 6000 hours of television.

It is commonly maintained that Sir Gawain and the Green Knight lay undiscovered in a private library for centuries, sewn into the binding of the Isagoge of Porphyry. When the contents of the library were consumed in a fire, it alone remained. No one can expect me to believe that. It is scarcely credible that such a damnable bit of heresy could survive the destruction of so much orthodox writ. Any self-respecting Archbishop of Canterbury would have burned it at the stake along with its author. To me it's obvious what happened: the works of the so-called Pearl Poet were written by Chatterton as schoolboy exercises in alliterative style.

Dr. Phillip Grimbulge had memorized long passages from Sir Gawain and the Green Knight, which he used to recite aloud in what he claimed was an authentic Northwest Midlands Middle English accent. The recollection of it still chills me to the bone. In consequence I never could read more than 5 lines of it at a time, and only know the story from the plot summaries. My impression is it's a thrilling

yarn, although the plot is appear to be as barbarous as the sound of Grimbulge's grating gutturals.

One gets the impression that English civilization underwent no significant change from the Beowulf of the 8th century to the Pearl Poet on the 14th. This leads me to wonder why undergraduates are required to study the relics from half a millennium's history of some primitive tribe, when so much else was going on in Italy, France, Baghdad, Toledo, Cathay, Timbuktu and elsewhere.

Besides the works of the Pearl Poet, the remnants of Middling English literature boil down to Piers Plowman, Chaucer, Richard II (under the pen name of Gower), the morality play Everyman, Sumer is acumen in , and Pilgrims Progress , another one of those long polemics in which some lazy peasant tells his betters to go to Hell.

In terms of his influence on English letters, Chaucer comes to the fore as the first English poet worthy of mention. He proved to the world that the English language was capable of something better than tax records and bad translations from more civilized languages.

In fact The Canterbury Tales started out as a translation of Boccaccio's Decameron . Part way through the commission Chaucer recognized that it just wouldn't fly. Feudal England was simply too barbaric to assimilate the frank sensuality, sophisticated cynicism, and jaded sophistry of the Quattrocento . He thereupon sat down and wrote his own Decameron, full of fetishes and feathers and clubs and

glass beads and other things that barbarians like and understand. The result was the Canterbury Tales , rich and gory with bloodlust, pilgrimages of flagellants, ghoulish anti-Semitism, crude pornography, savage myths and primitive superstitions: the stock and trade of the darkness in which medieval England was steeped. It is a pity that The Canterbury Tales was not immediately translated into Italian. Contact with the raw, cannibalistic barbarity of England might have exercised a stimulating effect on the Italian Peninsula, then rapidly sinking into decrepit mannerism.

The four to six Civil Wars commonly grouped together as the Great Rebellion, setting 5 nations, 6 religions, a dozen armies and an incalculable number of experiments in government in conflict for 75 years, should be understood as a last ditch effort to rescue the English from civilization. The gnawing inanition which has gradually but irreversibly been developing ever since is abundantly reflected in its literature.

After Chaucer's Canterbury Tales , one finds a displaced population of bad writers anxious to jump onto the Chaucerian bandwagon, hacks like Robert Greene, John Lyly, John Nashe, Thomas Dekker, Christopher Marlowe , John Skelton, Silas Marner, Macrobius and the Earl of Chesterfield, to name but a few. Robert Greene is famous for his manual on the art of poaching rabbits from the estates of rich barons. John Lyly has earned some renown for his

euphuistic style. He is the first writer in English to combine the art of saying nothing with being a bore, and is considered the father of an enduring school dedicated to that end.

It should not be denied that Robert Greene's Art of Cony-Catching is an interesting work . It takes its place among all the standard manuals for guerrilla warfare, those of Che Guevara, Nyugen Giap, Mao Tse Tung and others. The essay is actually written in a code that wasn't decipherable until Marxist-Leninist criticism showed the way. The word "cony" literally means "rabbit". Despite all professorial attempts at interpretation, it should be understood as such. For the con-artist read "dispossessed serf" . When Greene talks about the "mark" , or victim, substitute "feudal baron". Under this system of interpretation the essay becomes intelligible after a dozen re-readings. One is otherwise at a loss to understand what he's talking about, or even why he wrote it.

We bypass Sir Phillip Sidney, not because he doesn't have anything to say but because I was able to get away with doing so for 9 years, and proceed immediately to the great William Shakespeare.

A deluge of ink the magnitude of the Biblical flood has been disgorged over whether the author of Shakespeare's writings of was really Shakespeare himself, another person with the same name, Francis Bacon, the Earl of Oxford, the Duke of Gloucester, or Sir Walter Raleigh. Has anyone ever

considered the possibility that, even as all of his plots were cribbed from other writers, his name was stolen as well?

Dr. Phillip Grimbulge stated on more than one occasion that Shakespeare had been fined for poaching rabbits from a neighboring estate in Stratford-on-Avon. He surely could not have been right on this matter. Anyone who studies the laws of Elizabeth knows that the penalties for the confiscation of the fixed or moveable assets of one's neighbors went far beyond fines. Commonly, felons had their hands cut off, their ears cropped, their noses slit, their eyes put out. On occasion they were hanged till almost dead, then burned at the stake until almost dead, then tied to four horses and torn apart until almost dead. Whatever remained was left on a dunghill to sleep it off. In the rare instances of judicial clemency they were merely branded and mutilated, then shipped off to the colonies as slaves.

Which is what happened to Shakespeare! Since his original name is not in the history books, let's call him "John X". After being arrested for the poaching incident, X was shipped off to the West Indies in 1580. There he toiled on a plantation for 12 years.

His master's name was William Shakespeare. Before settling down Shakespeare had circumnavigated the globe as a pirate and free-booter.

Like many a lonely sailors on the endless ocean voyages of the day, he was a voracious reader: from the 16th century until well into the 19th, most of the written matter being

churned out by Grub Street hacks was tailored to the market of sea-farers desperate for any kind of reading matter. In this way William Shakespeare absorbed Plutarch, Beowulf, the Holinshed Chronicles, Chaucer, Boccaccio, Froissart and other writers from whom all the plots of the plays of his indentured serf would later be stolen. Sitting around the hearth every evening after the day's labors, Shakespeare passed along his erudition to the illiterate John X. Then, realizing that X was quick-witted, he also taught him how to read and write so he could keep the books of the plantation.

In 1592, John X escaped. Before making his way back to England he spent some time as guest of the Danish court at Elsinore. It was only to be expected that X would adopt the name William Shakespeare when he arrived in England in the guise of a distinguished gentleman just returned from the colonies. This theory has the advantage of being more plausible , than all the others, yet more imaginative.

Shakespeare is a very great writer. I'm no expert but I know great writing when I see it. You will hear people say that Shakespeare is the greatest writer of all time. Maybe, maybe not. He may also be considered one of the worst, if not the worst writer in the canon of English letters.
Ben Jonson maintained that his friend Will would have done well to cross out a thousand lines or so. Hypocritical like all writers, Ben shows his insincerity when he attempts to soften the blow by dubbing him the "sweet swan of Avon". Swans do not have a reputation for sweetness.

So what if Jonson's poetry is better crafted? Apart from Volpone , how many productions of his plays have there been over the last 3 centuries? Yet one cannot deny Jonson's point: it's all too easy to find those thousand lines. Then one can start looking for the second thousand.

For reasons of space and time, this critique of Shakespeare will limit itself to his so-called sense of humor. Shakespeare was hardly the Bernard Shaw of his day. The following bit of raillery from King Lear may well be the low point in all Shakespearean comedy:

Fool : Cry to it , nuncle, as the cockney did to the eels, when she put'em in the paste alive; she knapped'em on the coxcombs and cried "Down, wantons down!" 'Twas her brother that, in pure kindness to his horse, buttered his hay.

The humor would not be much improved by suggesting that it may have been the cockney's cousin or granddaughter who buttered the horse's hay. Substituting lard for butter might have elicited a chuckle from the groundlings. All of which is beside the point, for one gathers than the real cream of the jest consists in imagining a maid wacking an eel on the gonads! Even Freud wouldn't have been able to get a laugh with that one.

Who can deny that the opening lines of Julius Caesar were better placed in the last act of Richard III ? :

Marullus : You sir, what are you?

Second Commoner : Truly sir, in respect of a fine workman I am but, as you would say, a cobbler.

Marullus : But what trade art thou? Answer me directly.

Second Commoner : A trade, sir, that I hope I may use with a safe conscience; which is, indeed , sir, a mender of bad soles.

Marullus : What trade, thou knave? Thou naughty knave, what trade?

Second Commoner : Nay, I beseech you, sir, be not out with me; yet if you be out, I can mend you.

Marullus : What meanest thou by that? Mend me, thou saucy fellow?

Second Commoner : Why sir, cobble you .

Flavius : Thou art a cobbler, art thou? .....

This scene is compatible only with the hypothesis that Marullus is stone deaf. Whatever humor is to be found in it consists in his cupping his hand around his ear and saying "Eyh? " . The Establishment aren't that dense, not even in ancient Rome. The commoner states he's a cobbler three times before Flavius intervenes and asks him if he's a cobbler. One sees that the roles of the comic and the straight man are reversed. The cobbler is really the straight man, whereas Marullus cocking his ears four times and saying "Eyh?" is really the comic. One expects better of a high-school talent show.

Then, Shakespeare's manipulation of the so-called "comic relief", which presumably heightens the ultimate impact of the impending doom, can be awkward . Tell me

now, if this "comic relief" from Hamlet doesn't belong in Dr. Weakbladder's report on the neuroses of Frank Kriegle? :

Hamlet : Ay sir, to be honest, as this world goes, is to be one man picked out of ten thousand.

Polonius : That's very true, my lord.

Hamlet : For if the sun breed maggots in a dead dog, being a God kissing carrion - Have you a daughter?

Polonius : I have , my lord.

Hamlet : Let her not walk i'the sun: conception is a blessing; but not as your daughter may conceive. Friend, look to't .

The simplest way to interpret this interchange is to assume that Hamlet had overheard Polonius and the royal couple discussing how Ophelia can be made to serendipitously appear, unaccompanied, in the light of the "son". Yet all the deeper levels are full of sick jokes. Shakespeare somehow believed that his audience would be tickled pink by the striking comparison between the spontaneous generation of maggots from the carcass of a dead dog, and the conduct of nine thousand, nine hundred and ninety-nine dishonest rogues. Then they would certainly start rolling in the aisles with the thought of Ophelia engendering hoards of vermin by walking unattended in the "son -light" - get it?

Then again, Hamlet's remarks may carry the implication that it is Polonius himself who is feasting on his daughter like vermin on a piece of dead meat. Or that the

whole court of Denmark is greedily sating its gluttony on the dead carcass of old King Hamlet. As per usual, Will doesn't let pass the opportunity to introduce a whiff of pornography. Imagine it : a vagina chock full of worms!

Macbeth has one truly great moment of comic relief, the porter's drunken monologue, as he goes to answer the knocking at the door of Macbeth's castle on the morning of Duncan's murder. Everything else is just bad writing that comes off as comic: the scene in which Macbeth wanders around the battlefield boasting of his not being "of woman born" can send an audience into stitches.

It must be reluctantly admitted that Othello is a good ride. Apart from the character of Rodrigo, whom he was ill-advised to put into the play in the first place, the cranky technique of comic relief is avoided, which is all to the good. No doubt some sort of comedy is intended by the ridiculous yarns Othello concocted to woo the fair Desdemona. If nothing else they show us what a simpleton she is. The only other bit of humor in Othello is the famous line , "Welcome to Cyprus, Goats and Monkeys "

- Shakespeare's anticipation of Darwin by 250 years.

College educated audiences are too polite to laugh at anything in a Shakespearean play they suspect the author might not have intended to be funny; also to emit forced gurgling guffaws at his presumably intentional jokes, if only to mask their desire to yawn. But the devotees of great literature are too opinionated to recognize the obvious

truth, namely that Shakespeare's so-called comedies are more depressing than his tragedies.

A case in point: the comic wit of Twelfth Night can only be understood with the help of a dozen commentaries, by which time one is too exhausted to laugh. The following excerpt says it all:

Sir Andrew Aguecheek : By my troth, the fool hath an excellent breast. I had rather than forty shillings I had such a leg, and so sweet a breath to sing, as the fool has. In sooth, thou wast in very gracious fooling last night, when thou spoke of Piggogromitus of the Vapians passing the equinoctial of Queubus: 'twas very good, 'i'faith. I sent thee sixpence for thy leman; hadst it?

Clown : I did impeticos thy gratillity, for Malvolio's nose is no whipstock; my lady has a white hand, and the Myrmidons are no bottle-ale houses.....

It may have been funny in its own time, yet it's not the sort of thing that wears well. Much Ado About Nothing is only funny if you feel like slitting your fiancée's throat in a church. Only a Nazi can find any humor in The Merchant of Venice . Were it not so painfully close to real life, the scene in Midsummer's Night's Dream in which Titania falls in love with the head of an ass would really be funny .

Shakespearean humor is generally based on things which are either too horribly real, or on late Renaissance fashions in vulgarity which faded away after neo-Platonism lost its appeal. He's obsessed with cuckoldry. I doubt that yelling

"horns! " in a crowded theater always got a laugh, even in Shakespeare's time. He loves to play crude practical jokes on innocent, even amiable people like Malvolio, Falstaff, Titania, Caliban, Rosencrantz and Guildenstern, Othello, Shylock and others. At the heart of his most brilliant creations one is always conscious of the kernel of banality that inspired them. Shakespeare's genius consists precisely in his ability to assemble all this mediocrity together in a way that no-one has ever since been able to imitate, let alone fathom.

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Although William Shakespeare was the brightest star in the Elizabethan Zodiac, the times themselves were of historical importance in their own right. In the two millennia prior to the reign of Queen Elizabeth England had steadfastly pursued a foreign policy combining isolationism with respect to most of the planet, with a Monroe Doctrine relative to all its nearest neighbors; most Anglo-Saxon offshoots still practice some version of this tradition. It devastated France in the Hundred Years War, Scotland in the Three Hundred Years War, and Ireland in the Thousand Years War. In the 1680's it tried to invade Holland, but the Dutch returned the favor. It subdued Wales via the Tudor connivance, and Scotland through a steady erosion of the Balance of Payments.

Yet when the news reached England that Richard The Lion-Hearted was being held prisoner in Austria the immediate reaction was, Where's Austria? When Blondel explained that it was on the Continent people looked at him in bewilderment: What's a Continent ?

Up until very recently the English believed that there were no continents, only islands. To the southwest of France lay an even smaller island known as Rome, then further to the east another one named Jerusalem. The former was reviled as a haven for Papists, while the latter was frequently confused with the Kingdom of Prester John. These quaint beliefs are reflected in the immortal lines of Coleridge which Diggory Dribone made us memorize: "Water, water, everywhere, Nor any drop to drink! "

Queen Elizabeth changed all this. Queen Elizabeth was 3 centuries ahead of her time. In fact Queen Elizabeth was the first Victorian. Her maidenly purity was (if nothing else) proverbial, her appetite for empire building insatiable, her tender heart devoted to the execution of grandiose programs of poor relief. Execution is the right word for it.

She was the first English monarch to bring over the Germans: it was she who encouraged Frederick the Elector Palatine to spend his sophomore year as an exchange student at Oxford. [17] She was in the most literal sense the daughter of the Reformation. Her father had slapped

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17**Just because a gang of Papists tried to mug her, the Thirty Years War should not be held against her.**

together the Church of England with some stale dogmas and a pot of glue. Then he tried to make the divinity of kings hereditary. He might have succeeded, had not the Pope prevailed upon God to see to it that His stork would carry Henry no viable males. Nor did Elizabeth carry any males, or anybody else for that matter. Thereupon the race of god-kings died out in one generation. The mortality of the succeeding line was demonstrated by a null experiment on Charles I.

Near the end of the 16th century the hallowed isolationism of England was irrevocably shattered by the Spanish Armada. American schoolchildren are taught not to be upset by the fact that the wreckage of the Armada was dispersed around all the coastlines of England. Our smug satisfaction at that misfortune comes through being taught that Phillip II of Spain was an unspeakably wicked man. Being so evil everything he attempted had to end in disaster. I doubt that there is an English, Belgian or Dutch history book in existence that doesn't let its readers know that Phillip II was Satan Incarnate. English historians hope in way to make Queen Elizabeth look marginally better. Three centuries of such schoolhouse indoctrination have given the Americans an instinctive distrust of all peoples south of the border.

Yet the real Queen Elizabeth needs quite a lot of whitewash to come off better than some inoffensive Habsburg. She was a parricide, killing her father from

disappointment because she wasn't a boy. She didn't do too well by her other relatives either. Under her rule England became a bee-hive, with exploited workers, drones like William Shakespeare, Francis Bacon, Osric and the Earl of Essex, and herself as Queen Bee. The workers were shipped off to be massacred in Ireland. The drones who flirted with her at court were called courtiers. After sucking the juice out of them, she had them executed . Only Sir Walter Raleigh survived, to await disposal in the coming regime.

She prolonged the Norman Conquest by starting the British Empire. As a result, millions of peoples around the globe are marked for life by having to read Macauley in the original. She turned all England into a textbook for Karl Marx. She sent Sir Walter Raleigh to Virginia to begin the extermination of the buffalo.

On the positive side, she saw to it that Shakespeare wasn't executed for heresy or treason. This may explain the frequency of his bad jokes. Official censors being for the most part, dumb oafs, he had to give them something to laugh at.

Forget about Milton. Most people do. The next millstone (sic!)
in the development of the English language is the famous dictionary of Samuel Johnson. This tour-de-force creates a great deal of confusion in the study of the history of the language. In fact the dictionary turns it into a pseudo-science. It has been established by recent scholarship that

most of the definitions in his dictionary were invented by Johnson off the top of his head. It is very dangerous to entrust any serious work to a frustrated writer. Having despaired in making his mark in any of the conventional literary genre , poetry, novels, theater, biography or criticism, the learned doctor used the genre of lexicography as a vehicle for self-expression.

This proved to be a catastrophe of limitless proportions, because his neologisms standardized the meanings of words. Consequently everything written before his time had to be reinterpreted in the light of his dictionary. Thanks to Johnson no one knows today what Shakespeare, Cynewulf, Chaucer, or even that lazy farmer Langland, were really saying. In fact, the study of English literature before Johnson is really a waste of time. Nor is it terribly interesting after him either.

Later James Boswell published his biography of Johnson. As biography it's worthless, though it makes for good autobiography. It is impossible to imagine that a man of Johnson's stupendous erudition could be the simpleton Boswell makes him out to be. One has no trouble describing Boswell in these terms. The real Johnson can be glimpsed in his own "Life of Richard Savage". It is all the more to be pitied that Richard Savage didn't get around to writing a life of Boswell.

It is at about this time that the English language becomes self-conscious, that is to as embarrassed of its

appearance as French had already been for a millenium. Boswell tells us all about it. Samuel Johnson was the dominant force, that is to say principal bore, in all the "literary salons" that were springing up all over London. These were notorious congregatings of writers, painters, duchesses, defrocked ministers, embezzling politicians and so forth. They sat around all day long, making facetious and spiteful puns and showing off their knowledge of Greek.

After Johnson the language stabilizes: both its first and its second derivatives go into a decline. It is remarkable but true that, apart from
oddities like "Finnegans Wake", "Naked Lunch" or the novels of Henry James, nothing in modern literature would have been unintelligible to Coleridge or Jefferson. The names of modern inventions such as 'telephone', 'diode', 'electroencephalogram' would have caused few problems to these scholars of Latin and Greek.

This stagnation is the result of Johnson's dictionary, which explained for the first time to speakers of English the meanings of the words they were using. Before then no-one knew what anyone else was saying, or cared for that matter. But after the publication of his dictionary, people started using it to win disputes against others too poor to own a copy. Now anyone who didn't know the official definitions of words was punished with 20 whacks of Johnson's dictionary across the arse. Noah Webster brought the Johnsonian Inquisition to the New World. In our own day the Oxford

dictionary has made people so afraid to open their mouths that they do so only on formal occasions.

In the 19th century these descendants of the Vikings returned to the whale-road, striking terror into the heart of the world. Literature was cultivated by the stay-at-homes, those persons too pusillanimous to investigate these new opportunities for rape and pillage. Incapable of enriching the language with their own lusty creations, this breed of school-masters codified all that had already been written, established a "canon of literature", proscribed all the rest, lay the cornerstone of a system of education insidiously designed for the brain-washing of captive nations, (their own included) , and studied Greek. What decent talents remained among them committed suicide, disappeared into opium paradises, experienced premature senility or came down with tuberculosis of the logos. Shelley evaporated off the coast of Italy. Byron opted for sin. Keats got out while the going was good. Blake emigrated to the Island on the Moon. And so on.

Along came the linguists to tell us about morphemes, phonemes, allomorphs, homonyms, homophones, sibilants, glottals, fricatives, etc., etc.... That final bastion of originality, dialect, gave way to this academic battering ram. The goal of modern public education is to force everyone to speak the same way. For over a century the basic criteria for educated speech have been : total phonemic neutrality, proper morphemic enunciation, Oxonian vocabulary,

Germanic grammar, Norman-French syntax, and Graeco-Latin rhetoric. It is very difficult to keep all these things going in one's head at the same time, and those who are successful at it are rightly dubbed authorities.

Dr. Elijah Prout, my professor for History of the English Language in my junior year, imagined himself among this tiny colloquy of experts . At least once a week he would tell his class, " I's gonna get you to speak right, so you don't make no mistakes ". Invariably, he would laugh at his own joke. Alas! The moment the learned Prout, sexagenarian many a year, opened his mouth, he revealed a command of basic English every bit the level of his silly joke. He let us know that he expected to be paid for his sagacity by saying: "I seek no eleemosynary object. " Apart from his being the only person I have ever heard using the word 'eleemosynary' in conversation , he used it incorrectly. One may perhaps characterize certain intentions as 'eleemosynary' . Objects are things: one can hardly accuse a door or a salt-shaker of being eleemosynary, No doubt he was using the word 'object' in its archaic meaning of 'purpose', which would still be incorrect since one doesn't seek a charitable purpose, one either has it or one doesn't. If one seeks a purpose it cannot yet be qualified by any object.

And my bowels are still twisted by Prout's delectation before his ensamples from Matthew Arnold, nor am I inclined to make common cause with him in consputating those reprobate scriveners who besmear the tongue !

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His English was so awful he couldn't have made himself understood to a bus driver. I often wondered how he managed to get to his home, out on the West Chester pike near Broomall, when he closed up shop for the night. His private manner of speaking was not merely out of date, but was composed of a goulash of old-fashioned words, neologisms, bygone scholarly jargons and phrases coined by the daily newspapers.

The numerous essays we had to write for his class were corrected with 'diligency' and 'assiduity' , but also without mercy relative to this personal system of schizoid linguistics. There was a pathological frenzy visible in the nervous working of his red pencil on my weekly assignments. What ended up being returned to me looked like the bloodied back of a 'flogged dragoman' !

Sometimes he got the meanings of words mixed up, like the time he informed me that my coiffure was too horrendic for his classrooms. He meant my manner of dress. As gently as possible I suggested that he may have intended to use the word toilette . Naturally he became very angry and barked that people are never allowed to use a word like that when he was in situ . After that I kept my mouth shut, accepting the F's I received from him as inexorable .

Prout nurtured a private animosity against me. As a matter of fact, all of my professors of History of the English Language had something

against me: Elijah Prout, Phillip Grimbulge, Diggory Dribone, Tobit Stump, Athanasius Claw. I seem to see them all, whetting axes in the woodsheds adjacent to their suburban homes , thinking of me and chuckling. Each and every one of them was born before the invention of the automobile, none of them had the talent to write so much as a popular song lyric, yet all claimed to understand Shakespeare better than he did himself. They all hated me. I think they began to hate me from the first day of class.

As the vaguest of generalizations it can be asserted that mathematicians are bound to encounter difficulties in any literature course. The canker of mathematics is that it is too precise, while the canker of literary scholarship is its inherent fuzzy-mindedness. It astounded me that people I considered intelligent managed to get A's in History of the English Language . Naturally, they possessed modalities of intelligence quite different from mine. They figured out a way to cry when Tobit Stump read to them from Shakespeare, whereas I was unable to keep from laughing. And they could laugh, too, when Diggory Dribone told his stale joke about the "parsleymonious man who never sent lettuce ", when I could not restrain a yawn.

After Dribone instructed us to "eschew all Americanisms" , the whole class, myself excepted, started talking Oxonian; I began speaking Cockney. Athanasius Claw ordered us to revere The Vicar of Wakefield . People I'd imagined were very smart suddenly owned up to a great

love for The Vicar of Wakefield . Nothing will ever convince me that a beatnik like Oliver Goldsmith wrote that damn thing. History is very plain on this matter: Samuel Johnson wrote it to cover Goldsmith's rent.

I had the effrontery to tell Claw that in my opinion The Vicar of Wakefield was the worst novel I'd ever read. A sharp intake of breath; then Claw bravely tried to show his support for academic freedom by asking me what I didn't like about it. I called it a "snide study in sentimental sanctimony " . To me it was steeped in an atmosphere of piety that Oliver Goldsmith, the Jack Kerouac of the 18th century, could not have taken seriously. His own way of life reveals him as a man of far nobler character than any of the sentiments expressed in this novel. When he asked me for the evidence for this, I pointed out that instead of milking his patients dry like any other respectable doctor, Goldsmith hung out in coffee houses all day long. This was followed with my theory of Johnson's authorship, supported by citations, plausible inferences and internal textual evidence. Claw mumbled something to the effect that I had some interesting ideas, even as he was entering an F beside my name into his grade book.

Scientific minds want to juggle hypotheses, question dogmas, invent and carry out experiments. The activity of 'thinking' in the sciences isn't the same as in the humanities, where it is more of a form of directed dreaming akin to hypnosis. The ideal of the cultivated mentality to which the

University aspires , lies somewhere between an opium trance and the stupor induced by reading books of medical statistics for 3 hours.

One isn't expected to judge Chaucer, Lyly, Shakespeare, Goldsmith, Hardy, and all the rest. One isn't even expected to read them : that's already been done for you. What one learns to do , (and my aptitudes in that respect are notoriously weak), is to affect an attitude of cultivation , channeling all one's reactions into some fashionable aesthetic , until the mind's eye, drugged and bloodshot, goes into free-float through Cynewulffian vistas, Miltonian Elysiums , Hardyesque dungeons, Coleridgean opium dreams. One's resolution becomes hued over with the pale cast of Shakespeare. One's speech will bleat Wordsworthy lambs, and over one's term papers there will shine the crepuscular effulgence of Tennyson. As one's critical faculties fade away to virtual extinction, one's ability to extemporize meaningless chit-chat is amplified a thousand-fold.

The abilities of the weak, broad mind as described by Pierre Duhem in the passages cited at the beginning of this memoir, come into their own, while those of the strong, narrow mind flounder in the abyss. In the arena of literary scholarship all qualities of intellect normally considered virtues become vices . The mind which forms hypotheses, frames theories, dissects arguments, sets up experiments and reaches conclusions must give way to the mind that

exhales vapors, equivocates fantasies, bogs down in quandaries and drowns in paradoxes. One cannot train or develop such a mind, no more than one can train or develop a club foot. You either have it or you don't.

A warning to critics who may decide at some future date to review this book. Reading about my shameful performance in History of the English Language should make it clear that I won't be able to understand a word of your review. Nor should you feel guilty if you want to say bad things about me, because I won't know enough to be offended by them.

I won't even recognize when I'm being praised. Don't expect me to send you a review of your review. I'm as little able to critique reviews about books as I am able to critique the books themselves. This should not be taken as a put-down of literary critics. Anyone whose gray matter is configured in a fashion so utterly different from mine deserves my respect.

I don't take credit for my inadequacies. I'm well aware that I'm something of a clod. Despite having come this far in the writing of my autobiography, it's obvious that I don't have a literary mind. The sum total of all that I learned from the 9 Years War with History of the English Language can be put into this nutshell.

I will never like The Vicar of Wakefield . I will always get Pilgrim's Progress mixed up with Piers Plowman . The very title of a Hardy novel puts me to asleep . I will never accept the way the dictionary defines words. Passages in

Shakespeare that make others laugh make me cry; yet I can roar with laughter over scenes normally considered the ne plus ultra of tragedy. Finnegan's Wake was fun to read, yet I remain baffled by Charles Lamb's Dissertation on a Roast Pig . To my warped taste , Edgar Allan Poe is funny, Lewis Carroll horrible. The only writers in the literary canon of English I can really enjoy are the Pearl Poet [18] , Cyril Tourneur , Richard Crashaw, George Crabbe, William Blake, Thomas Lovell Beddoes, Emily Bronte, James Joyce and Raymond Chandler. My favorite author , virtually an unknown to most of the literate world, is Matthew Rambly (1590-1648) .

Rambly fore-shadowed the novel a century before reaching its definitive shape at the hands of Fielding, Richardson, Goldsmith and Sterne. His notions of structure and form were far in advance of his time, one might argue they were in advance of all time. Even the nouveau roman looks outdated which set against some of his bolder experiments .

Although Alain Robbe-Grillet and Phillipe Sollers claim to write novels with no content, Rambly wrote narratives with negative content. After you finish one of his books you know less than you did before you started, a real accomplishment for a writer.

18**that is to say, *Sir Gawain and the Green Knight* in its Classic Comics formulation.**

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To make Diggory Dribone's explications of Shakespeare more bearable, I tried sitting in his classes with a Rambly novel concealed in a loose-leaf binder. One day he caught me at it. Before I realized what was happening he'd snatched the book out of my hands. If I recall correctly it was Rambly's masterpiece: The Cozened Midwife . A mere glance at the author's name evoked a wince of disgust . Reaching his desk he threw the book into the trash basket. Then he asked to talk to me privately after class.

Seated together after the room emptied out, Dribone informed me that in the judgment of educated people, (among whom he would like to believe I belonged), Matthew Rambly was the worst novelist in the English language unlucky enough to have found a publisher - perhaps in any language. Why? I asked : was he worse than Rudyard Kipling? Much worse. Was he worse than T.S. Eliot? Dribone stared at me in a state of shock; my slur on the venerated name of Eliot demonstrated my total incapacity for humanistic cultivation. Didn't I realize that Shakespeare refused to allow Rambly into his house in Stratford-on-Avon?

This revelation immediately opened my eyes to what had previously escaped me: the 400-year neglect of Matthew Rambly's works was the result of a smear campaign mounted by Shakespeare against his only significant rival. Dribone's comment had the effect of stiffening my resolve; I assured him that I intended to seek out and devour any work of Rambly's still extant and available . Critics and

scholars spit on Rambly, I went on, without taking the trouble to read him. He knew more about sex than Havelock Ellis and was a better stylist than Walter Pater.

Even the educated public only supports authors who tell them what they want to hear, but the really good writers are those who tell them what they don't want to hear. Hacks like Chaucer and Shakespeare continue to be read because they developed the knack of telling people what they already believed in such a manner as to make it appear that they were receiving extraordinary insights. Writers, like the speakers at political rallies, become famous by telling their audiences what they already know. The posterity of the allegedly 'great' writers balances precariously on their time-transcending ability to make trite commonplaces sound like profound and original ideas.

My enthusiasm began to get the better of me. Dribone must have thought me a fanatic. Raising my voice I reiterated that the Ramblys of this world never have a chance, precisely because they attempt to communicate genuinely new ideas . Rambly's novels present a challenge, even today. He was well worth studying and I was determined to rectify the historical injustice done to his name.

Dribone listened carefully to everything I said. To my great surprise he admitted to a certain sympathy for my views. What appeared to be disturbing me was nothing more than the basic dilemma faced by teachers

everywhere. In a relaxed tone that let me know he bore no ill-will towards me, he told me that he'd had a long career. He knew all about the hostility aroused in his students whenever he tried to put new ideas into their heads. Being myself a student he didn't expect me to appreciate, the cross professors had to bear. but he was generously prepared to forgive me. For that very reason it was a mystery to him that I could have so much sympathy for Matthew Rambly, a rightly despised pornographer of the 17th century, and yet be unable to empathize with a flesh-and-blood teacher like himself , bowed low by so many "slings and arrows of outrageous fortune" !

My face broke out into a broad smile. Then and there I promised to show more appreciation for him in the future. We shook hands and I got up to leave. Just before reaching the door, he called me back . Dribone felt it was only right to apologize for the F that he'd already entered into the record . He sincerely regretted not having the energy to walk down the corridor to the departmental office and go through the bothersome process of altering it.

In fairness to my English teachers, I don't read. Apart from science fiction paperbacks and other pulp it's unlikely that I read more than one non-technical book a year from cover to cover. C.P. Snow was quite right about the Two Cultures: look at his own novels for example. I don't pretend to be able to write a novel myself. Autobiography is daunting enough. To tell the truth, honesty compels me to admit that

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anyone who's come this far has probably realized that half the time I don't know what the hell I'm talking about.

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Chapter 10
My Humanization

Twelve credits in the social sciences were required to complete the undergraduate curriculum at Zelosophic U. In theory this didn't bother me. My normal tendency at the beginning of my college career in 1948 was to regard human beings, (and society in general) , as a waste of time. As that age anything that interfered with my intense intellectual life was viewed as an annoyance, even morally wrong. It may have been the involvement with Felicia Salvador that awakened the realization that mathematics isn't everything. Perhaps a certain curiosity about the interconnections between human nature and society was stimulated by enforced attendance in History of the English Language .

It must therefore appear all the more surprising that my investigations into the species should have been initiated by an elective course in Criminology in the second term of my freshman year. To set the record straight, I did in fact enroll in Criminology at that time. However, after the first lecture I never went to another class.

Mind you, my behavior did not imply any criticism of either the subject or its teacher. Simply stated, after I left the classroom that day everything having to do with the course was effaced from my memory. It was with considerable shock at the end of the term when I received my report card, that I noticed the F adjacent to a course

listing with the odd name of "Criminology"! Like the novel, Moby Dick, which I'd read in high school but of which I cannot to this day remember a single word, the recollection of having signed up for Criminology had been blocked from consciousness. Failing meant that Criminology had to be taken again in my sophomore year. This time I was more than eager to attend. Apart from my interest in getting it over and done with, recent experiences had instilled in me a desire to learn something more about outcasts.

Every community has its offenders, its vengeance bureaucracy , its penal institutions. The world of higher education is no exception. There are 3 activities which, although no more than a minor annoyance in the real world, are considered criminal in the academic world :

(i) Not going through proper channels ;

(ii) Not paying your dues;

(iii) Independent thinking.

Criminologists need to do more field work in the institutions that pay them their salaries. Virtually every college professor in America will bellyache about how he is miserably underpaid relative to what he could be getting in private industry. And as a matter of fact, when one considers how much he has to spend just to keep up appearances, one begins to feel as sorry for him as you would for any other small-time operator.

Though he was always doing what he called 'field work' in the prisons, Jerome Fuzz never experienced a single day

as a prison inmate . He didn't need to: his entire career was spent in a prison of his own making. That he would never realize this made his punishment in some respects more pitiful than those of Tantalus or Sisyphus. With methodical ignorance Fuzz reliably hammered out papers filled with tables exhibiting statistical correlations between tonsillectomy in childhood and kleptomania, vitamin A deficiency and homicidal mania, lead poisoning and embezzling, and so forth. He would have done much better to study himself.

To take a notable example, one that speaks volumes, Jerome Fuzz was a past master of the textbook racket. Way back in 1935 the gang in the Social Sciences Division had cobbled together a Sociology textbook entitled Deviant Behavior: Cause and Cure . In due time it became required reading for all introductory courses in the division. Since 12 credits in the social sciences were needed for graduation, sooner or later every undergraduate at Zelosophic U. would have to buy the book .

At the end of each term the half dozen or so bookstores on the periphery of the campus bought up hundreds of used copies. Students are always in need of an extra dollar: getting rid of this book in particular came as something of a relief. It was a good system, allowing incoming freshmen to get their copies at a considerable saving.

To recoup the lost revenue the authors of Deviant Behavior came out with a revised edition every 3 or 4

years. It might differ by as little as a few stray paragraphs from the previous edition, yet students were obliged to purchase the new one.

Then in the early 40's, certain faculty members, Jerome Fuzz among them, had the genial inspiration of buying out. during the interim period between editions, the entire stock of used copies from all the local booksellers , then selling them directly to their students for a few dollars below list price.

In 1948 I gave $15 to Jerome Fuzz for a book from which he'd collected $2 in royalties in 1946, which he'd bought back from Sloan's Books for $10 at the end of the school year in 1947, who had themselves given $5 to the student who, in 1945, had paid $18 for it, of which Sloan's kept $8 .

Jerome Fuzz made $7 , $5 untaxed. Assuming a 50% markup on the wholesale price, Sloan's picked up $14. I risked losing $15, except that I wised up soon enough to sell my copy to a Freshman in 1949 for $16 , who imagined he was saving $2 .

In 1950 a new edition came out; and of course the price went up.

This meant that a new 'revised edition' had to be purchased for Professor H.M.'s Sociology course in 1951, setting me back $20. For my third and final recycling of Fuzz's Criminology course in 1956 I had to buy yet another revised edition. Since the differences between this and the edition of

1950 were minuscule, the book was borrowed from other students on the rare occasions when I needed it: Jerome Fuzz was not getting any more rake-offs from me!

My second F in Criminology confirmed my criminality, yet now I no longer knew how I stood as a human being. The object of inquiry in any real science is generally present in Nature in advance; in the human sciences the object is invented co-extensively with the investigation.
Certain simplifying fictions, like normality, predictability, reliability of informants, and the smug conviction of the researcher that all other persons are essentially like himself, allow sociologists, anthropologists and others - after dignifying them perhaps with the term, artifacts - to examine languages, societies, customs and taboos, pottery shards, etc. However, although paleontologists have been known to learn quite a lot about the dinosaur through the study of its calcinated crotilites, it is always preferable when one can derive the turd from the dinosaur, than to have to infer the dinosaur from the turd.

Jerome Fuzz made me understand that I was intrinsically unsuited as an object of study for the Human Sciences. Though persuaded of my criminality, neither he nor I were able to establish any motives for my crimes . A crime without motive is no more a crime than a mass without acceleration is a force. It isn't the commission of crimes that makes the criminal: one must harbor criminal motives. Remove this Axiom and Criminology as a science

collapses. Laws come and go but criminals abide. A government may forbid its citizens from wearing round hats: only criminal natures will do so. [19]

Numerous indictments were registered against me in the dossier compiled by Dr. Fuzz: consistently showing up one-half hour late to his classes; looking out the window while he was lecturing ; never bothering to hide my unreasoning hostility to the instructor; proposing bizarre anti-social theories ; and in the vague phrase from which any conclusion could be drawn : acting like a psychopath .

Although his professional reputation was on the line, Fuzz was intelligent enough to recognize that 'criminality' is at most a description, not an explanation. However, the label having been stuck on me, he found himself at a loss to explain what he called my 'gratuitous acts' . [20]

Why couldn't I mitigate the frequency and intensity of my yawns while he was speaking? What grounds did I have for asserting that a day at Zelosophic was worse than a day

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19 **" The Nizhny Novgorad provincial governor identifies as nihilists all women who 'wear round hats, blue glasses, hoods that conceal their short hair and do not wear crinolines' ; he orders the police to arrest them, make them take off all their garments and, if they resist, to exile them from the province" ... *Love and Mathematics: Sofya Kovalevskaya* , pg. 33 ; by Pelageya Kochina, Mir Publishers, 1985 ; quotation taken from Nikitenko, A.V. , *Diary of Aleksandr Vasilievitch Nikitenko* ; 1891, pgs. 563-592**

20 **My extracurricular reading at the time included André Gide's novel *'Lafcadio's Adventures' (Les Caves du Vatican)* . It is quite possible that my unconscious was putting some of the ideas from this book into practice.**

in solitary confinement? Had I ever been in solitary confinement? How could one of society's rare and priceless rewards, attendance at a great university, be compared with the means employed by society to punish its offenders?

Why was I so obstinate in maintaining that the notion of a 'psychopath' was ridiculous, when I myself was the prime example of such a being ? Why did I fart right in the middle of Fuzz's lecture on the irresistible impulse? What got into me that afternoon when I turned around and shouted " You gangster!" as I was walking out the door?

I was just as baffled as he was. There appeared to have been no discernible motive for these acts. Why did I yawn during his lectures? They weren't boring in the least. They gave me the same sort of enjoyment I get from watching an old Edward G. Robinson movie. I might in fact have been yawning at the recollection of things Phillip Grimbulge had taught us in History of the English Language . Reliving memories of boring experiences is another one of my unusual talents.

Why did I state that a day in Zelosophic was worse than a day in solitary confinement , when what I really meant to say was " A day at Zelosophic is worse than a year in solitary confinement" ?

The concept of a "psychopath" is ridiculous, but what value is there in trying to convince a pig-headed rogue like Fuzz? Why did I fart in class on the above-mentioned day, when I'd just come from taking a crap? Although it

made perfect sense to call Jerome Fuzz a gangster, the decision to do so after that particular class makes no sense at all.

The notion of the gratuitous act may have some meaning in pseudo-sophisticate French literature, but it is totally unacceptable to a scientist. All things must have a cause; if this ever turns out not to be the case, one will see lots of physics faculty being denied tenure. This was all very upsetting to me until I realized that a motive in Jerome Fuzz's metaphysics had to be defined in terms of some theory fashionable at the moment. I did have motives, naturally, in the sense that my actions were caused by something or other, yet they were not human motives as Jerome Fuzz conceptualized the notion of a human being.

Over the ages our species has been defined and redefined in countless ways: one of them had to be applicable to me. Was I an example of Man, the measure of all things [21] Was I Homo Faber ? Homo Sapiens ? Featherless biped ? A universal entropy reducing system ? [22]

21**A notion which, since the advent of Quantum Theory can no longer be applied without reservations!**

22**"..there are local enclaves whose direction seems opposed to that of the universe at large, and in which there is a limited and temporary tendency for organization to increase. Life finds its home in some of these enclaves."**
Norbert Wiener: "The Human Use of Human Beings" 1954 , pg. 12. DaCapo Paperback. On page 40 Wiener takes a somewhat different stance: " In a very real sense we are shipwrecked passengers on a doomed planet."

All these have merit, yet I remain unconvinced. It's doubtful that they can be applied to anyone and they certainly don't apply to me . The existence of entropy-reducing machines, engines for reducing abstractions, does not inspire much confidence in me. Human beings have been called manufacturers of symbols (Cassirer, Langer) , speechifiers, tool-makers, a "piece of work" (Shakespeare) ; and so on. Threadbare definitions like these can hardly be said to lay the foundations for the scientific study of humanity. They have no more value than assertions like Atoms are hard , or Substance is the seat of motion do for the physical sciences.

Fortunately or otherwise, a social scientist doesn't need axioms before getting down to work. He'll be satisfied with some sort of operational heuristic, a subject linked to some sort of predicate. Criminologists can stay in business by defining a human being as : that entity which, when it commits a crime, has criminal intentions .
Sociologists can do quite well with: that discretum which defines itself in the collectivity. " Anthropologists can argue that: A human being is that entity, the definition of which is the goal of our science . Economists see people as: machines programmed for gain . No doubt the following suffices for the whole science of psychology: A human being is a self-investigating feedback mechanism !

The essential point is this : every one of these heuristics is too narrow to include me. I have to admit I've met all sorts

of people to whom they do apply. It was doubts such as these that led me to enroll in my sophomore year in Professor Stannard d.v. H.M.'s Sociology course. It was a disaster in the making.

Surprisingly, relations between Stannard d.v. and myself began on a good footing. We used to run into each other in the cafeteria of the Student Union, where we sat around talking about mathematics. Stannard was middle-aged, with dark hair and an unruly beard, given equally to spontaneously gestures of generosity and sudden fits of temper. His glasses were thick, his gaze more unstable than penetrating. He was probably crossed-eyed; one could never get him to look directly at anything. His manner of walking was more in the nature of a nervous tic. This did not make him unsympathetic, only a little frightening at times.

Comfortably tenured a few years before I met him , one could not say that he was terribly happy. In a private moment Stannard confessed that when he was my age he had also been puzzled about his humanity. In his middle twenties he'd contracted a penchant for obsessive futility, which later cost him a year in a mental hospital.

I soon learned of his quasi-religious conviction that all aspects of human behavior could be translated into systems of equations. He's not the only person around afflicted by this peculiar superstition; unhappily he knew nothing about mathematics. Otherwise he could never have come out with so many of his bombastic claims. My dilemma was apposite

to his: it had been my hope that insights in my humanhood might counter-balance my too- exclusive preoccupation with mathematics.

In the second month of the Fall semester Stannard asked me if I would be willing to give him some lessons in the applications of the theory of matrices. It was the pet theory of some reputable sociologist that matrices held the key to the human condition. Stannard had only the foggiest idea of what matrices were. Square arrays , he called them . How, he wanted to know, did one go about extracting information from square arrays ?

Dr. H.M. could become quite carried away by his square arrays. Although he had ideas, some of them fairly good, on many subjects, whenever I was in the vicinity they were the only thing he would talk about. He would be at the front of the class, inserting data into a table drawn on the blackboard when, casting significant glances in my direction, he would say things like: " Aleph of course knows what I'm talking about. "

He cornered me in the coffee shops and on the buses, at campus functions and even in the Men's Room , just to talk to me about the wonders of matrices. Finally I agreed to take him on as a student. Perhaps I could cure him of his obsession. The fee was $10 an hour (1950's prices). Dirt cheap considering what I had to put up with.

Stannard d.v. H.M. lived in an oppressive stone-faced house on Spruce Street, not far from Rittenhouse Square. Its

long low windows sagged like the eyes of a basset hound. Forbidding entrance by its very aspect, the belligerent black front door promoted, like new-born twins in the hands of an obstetrician, a pair of stickers. The first was a small rectangular box, at the top of which stood a pair of words , blood red with letters shaped like daggers: " **I GAVE** " Below this, in smaller letters, was the punch-line : " to the United Way " .

The other sticker was shaped like a policeman's badge. A red band bordered its upper edge, with blue and white stripes descending vertically. On it field was the message :This House Is Protected B y Trent Security Services .

I worked with him from 5 to 7 in the evening two days a week. Upon hearing the buzzer, Stannard would come running to the door and squint at me through the grillwork. Relieved that I was neither a burglar nor some kindly old lady, just that sucker, Aleph McNaughton Cantor, his face lit up and he opened the door. Expansively as an old chum, he clapped an arm about my shoulders and led me into the living-room.

The vast room put me in mind of an antique grand piano, untouched for years, once much played upon, now hopelessly out of tune. A mere mortal dwindled to nothing in the thick fabric of this grey void. Floor-to-ceiling bookcases on the sidewalls , stuffed with books, reprints and periodicals, reaffirmed the triumph of knowledge. A clumsy

arrangement of floor and table lamps guaranteed that an aura of hopelessness would always hover over the room. Depending on where one stood and the effects of lighting, the ceiling was either too high or the floor too low. Sinister wallpaper like striped pajamas and a heavy Persian carpet did nothing to dispel these feelings of unease. I always suffered from the sensation that one slip would land me on the base of my skull. Stannard earned my gratitude by never inviting me into any other part of the house.

Sessions always began with half an hour of drinks. I had my choice of juices or sodas, while he generally took some sort of aperitif : sherry, brandy or Vermouth. Gossip about acquaintances and campus scandals, and vague talk about life, philosophy and society threatened to use up the available time; once in awhile we managed to get in a bit of work.

Dr. H.M. was a lousy student. His conviction that he was incapable of learning how to do matrix multiplication properly prevented him from doing so . Matrix theory had seduced him: that's the only word for it. Matrices for him were magical , entities of such awesome power that thinking of them as ordinary calculating tools was tantamount to sacrilege. Indeed he became very angry whenever I managed to show him that some mysterious property of matrices derived from a routine application of ordinary arithmetic.

At heart Dr. Stannard d.v. H.M. was credulous. His basic medieval Weltanschaung lay buried under an avalanche of scientific vocabulary. He would have been much happier in New Guinea worshipping the snake god. Very little was accomplished in our sessions. Either he imagined that he already knew what I was trying to teach him, or that it was unimportant and not worth knowing. Always lurking was the danger that he might burst out into spontaneous panegyrics to the Universal Matrix, cure-all for every social evil, endowed with powers to prevent famines, housing shortages, racial conflict, breakdowns in public services, under-population, over-population and epidemics. From a superficial overhearing of the conversations of his colleagues among the economists, he was convinced that the Soviet mathematician Wassily W. Leontiev had shown that the economy of the world could be projected decades in advance, " by means of certain mathematical operations on matrices which I hope to learn from you, Aleph ! "

His cheeks burning with asinine enthusiasm, Stannard d.v. recounted how some metropolitan dump had tabulated its crime statistics into a matrix, then, through Operations Research - the magic phrase - had computed the optimal policeman's salary ! He went on and on in this vein, his irrational faith in matrices growing in direct proportion to his inability to work with them.

For weeks on end I had to put up with the assault of his impassioned ignorance. Then the whole facade would

collapse. I would show up as usual for our rendezvous , only to find Stannard in tears; on more than one occasion I'd the impression he'd been drinking. Work was out of the question. As I sat by him, coddling his ego, he pitifully laid bare his soul.

Deep down inside he knew he wasn't getting anywhere. Neither was I, but so what? At least I was being paid. Yet had there not been the additional factor of being enrolled in his Sociology course, nothing short of a court order could have prevailed on me to keep up these bi-weekly visits.

H.M. flunked me anyway, which just goes to show what a fool I was for getting roped into the deal in the first place. His initial enthusiasm for me had turned into an all-consuming hatred without any intervening phase of normal dislike. He accused me of being incompetent to teach him matrix theory. He cursed me out, swearing that I didn't know a thing about mathematics. In addition to being demonstrably false, this was beside the point: Piaget couldn't have taught him how to work with matrices.

To set the record straight, the charge that I insulted him on a few occasions did have some basis in fact. Giving comfort has never been my strong point; my mother claims that I kicked her viciously while still trapped in the womb. As a prison even that could not have been worse than being held captive in H.M. 's living-room. He accused me of calling him an imbecile. I may have done so : one should not expect maturity from a 15-year old.

In retaliation he used every public opportunity, in and out of class, to call me an imbecile. If he so much as noticed me walking across campus he would run after me shouting "Hey, imbecile! Hey, imbecile! ". Sooner or later he would come around to apologize, all but begging me to kick him. Then something new would set him off. His manner was, depending on circumstances, threatening, apologetic, whining, priggish, shameless, guilty and vicious.

I'd become the central figure in Dr. Stannard d.v. H.M.'s Oedipus Complex. He had determined that I must suffer because he would never find the Great Matrix to solve his marital problems, his failed investments , his execrable research, his low ratings as a teacher, and the rest of his existential dilemmae.

He was the worst student I've ever known . Underneath it all , it's not that difficult to hurt my feelings. As if in payment on a long outstanding debt, I finally found the guts to storm out of his living-room when he began accusing me of making time with his wife. The charge was utterly preposterous: I'd made the mistake of commenting favorable on her new hair style. Stannard's wife had taken an instant dislike to me from the day I entered their house. She saw in me a threat to the cornerstone on which rested the stability of their marriage: her husband's emotional immaturity. I was not the first person, nor the last, to size up Stannard d.v. for what he wasn't, and she had good reasons to fear our breed.

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Chapter 11
Astronomy

I don't recall the date, sometime in my freshman year, on which I became fired up by astronomy. That afternoon I raced the 20 blocks into downtown Philadelphia to invest all of my savings plus the miserly monthly allowance my father gave me, on a make-your-own telescope kit. By the next morning knowledge of the very existence of that kit had evaporated. It was discovered again, quite by accident, at the end of that year while I was packing up to move out of the dorm. For half an hour I sat on my bed with the kit in my hands, trying to figure out what it was doing in my room. The mystery wasn't cleared up until 3 months later. As I was enrolling in Fred Elasasser's Cosmology course it all came back to me.

It was generally believed , and Fred knew it , that most of his original ideas on cosmology came from science fiction novels. This isn't a criticism: that alone made them better than most of the theories of Hoyle, Bondi, Gold, Sciama, Rees and others. Fred maintained that the universe was formed over two billion years ago when a heavier and a lighter substance separated. The viscosity of each, or both, created a vortex that, under the effects of a cosmic wind coming from somewhere or other, fragmented the primordial substratum into spinning hydrogen clouds which became first the galaxies, then the stars.

Well, we all have to make a living somehow.

Despite being chairman of the Astronomy Department, Fred Elsasser could barely keep body and soul together on his administrator's salary of $25,000 a year. Contracts with the Office of Naval Research brought in another $4,000. He'd written one of the standard undergraduate textbooks in the field; the royalties from this guaranteed him $2000 a year for the indeterminate future. His wife was on the department payroll as a part-time research assistant at $300 per month.

All of that put together may sound like a lot of money, even after one tallies up taxes, two children in Friend's Select and Penn Charter high schools high schools , a third now a senior at Zelosophic U. on a faculty scholarship, his mother in the University Hospital getting virtually free medical care, and a miscalculation on the stock market that set him back a whopping $20,000.

What needs to be factored into this equation is what it cost Elsasser to live in a style commensurate with his dignity. Then one begins to understand why he went to every faculty meeting, cocktail party and dinner, why the electric typewriter in his home study came from the Astronomy office and his filing cabinets from the basement of the Math-Physics Building, why he confiscated all of his computation notebooks, legal sized scratch pads, and dozens of reams of paper from the department's supply room, why - (but that infrequently) - he sometimes heisted

books from the Zelosophic libraries, why he revised his textbooks every two or three years, why he was obsessed with publishing an article of some sort in the Astronomy journals at least four times a year.

To add to his burdens, Dr. Elsasser felt that he had to live in Swarthmore. No one put pressure on him to live in Swarthmore. None of his peers, no college administrator ever said to him , " Dr. Elsasser, we think it would be good for your career if you lived in Swarthmore". He may or may not have lost his position as chairman if he'd lived in North Philadelphia, surrounded by cockroaches, rats and festering spit. It's unlikely that anyone would have come to his monthly cocktail parties; indeed, it would have been too dangerous. Yet it is a fact that most of his colleagues at Zelosophic felt better about him because he did live in Swarthmore.

Fred took great pride in his ability to detect intellectual ferment in this crusty suburb where most of us detect nothing at all. He rationalized that the engulfing silence was good for his peace of mind. He always made it a point to let people know that he lived in Swarthmore, where he'd discovered his choice suburban nugget at the bargain price of $75,000; a paltry sum for the late 40's .

Yet there were auxiliary costs which should not be ignored. Because of the superhuman boredom of living where and as they did, Fred and his wife found themselves making long expensive trips just so they could escape.

Usually they went to Vermont, where they were quite happy wandering about the woods, or to California, Hawaii, South America and places in Europe where Fred could spend many impassioned hours staring through telescopes.

The point of this long disquisition is that, in spite of all his perks, Fred Elsasser saw himself as an unfortunate victim of an unjust society, a servant of science reduced to abysmal poverty . It depends largely on one's point of view. He was correct, if one quantifies poverty as

Poverty = k Exp (Ambition/Income)

, k being some appropriate constant of proportionality.

The Elsassers kept a Bechstein piano in their living-room. Neither he nor his wife could play it . He wasn't even fond of music, but he kept it there so he could force his three children to practice on it. When he traveled with his family to Africa in the 30's as a part of a team set up to witness a solar eclipse, they brought back a job lot of tourist junk, AKA primitive art. Largely untouched, it lay scattered around the house. This was something of a compulsion with all of them. Whenever he, or his wife or children went away on vacation they always brought back loads of artifacts to be dumped and abandoned in convenient locales.

As department chairman Dr. Elsasser thought it necessary to maintain a bigger and more impressive home library than that of any of his subalterns. In 1948 he'd invested $2,000 for the complete works of Euler, the great

Swiss mathematician/astronomer/physicist . All 40 volumes of Euler's Opera Omnia stood, prominently displayed on the dining-room mantelpiece and in boxes on both sides of the fireplace.

Elsasser didn't know any Latin, but the sight of all those Euler volumes, face-to-face across the room with a floor-to-ceiling bookcase holding books on General Relativity written in a dozen languages, made a profound impression on the many visiting eminent scholars from abroad that were ever being put up for short stays at his house.

The novelty wore off after a few years, and he decided to get rid of the Eulers. Some people thought that he'd sold the whole edition as deadweight, but it was more reliably rumored that he'd knocked down the lot of them at an enormous loss to a colleague in some third-string college in the Great American Wilderness, where even a second-hand Euler can pull rank.

One shouldn't draw the conclusion that I consider him a fraud; far from it. He knew his cosmology all right, and what he didn't know he could make up better than anyone else. Most of cosmology, and even much of astronomy, is like that. Even the commonly accepted distances to many of the stars have to be doubled every decade or so. Had he absorbed the contents of 3% of all the books in his library he could still be rightfully considered an authority in 4 or 5 fields. There were books on astronomy and physics and

mathematics and chemistry; quantum chemistry, nuclear physics and bacteriology ; space exploration; on astro-physics, astro-chemistry, astro-geology, astro-biology ; on cosmology and cosmogeny; and the proceedings of dozens of symposia on all of the above. The same book translated into 20 different languages was prominently displayed . Long shelves of bound periodicals in several scientific disciplines reached without a break into the last century.

Other bookcases held books on philosophy, psychology, entomology, ship-building, mountain climbing, Persian history, Lamaism, Hindu literature, primitive religion, kinetic sculpture , modern dance, city planning and many other things . Nobody who visited his home in Swarthmore would ever be allowed to leave without having gotten the impression that he'd been in the presence of a man of diversified interests and vigorous mind. Entire encyclopedias were on display, next to complete editions of Bernard Shaw, Mersenne, Chebyscheff , Charles Saunders Peirce , Engels, Paracelsus, Flamsteed, Herschel, Hubble and Gurdjieff . He may even have had a copy of the Isagoge of Pophryry .

It would have taken him a lifetime to absorb an average of 10 pages from each of his books. A small number had no doubt been studied from cover to cover. Somewhat more had been browsed at one time or another. The vast majority were, and would always be, unread. Whatever drove him to possess them could not have been dissimilar to the

compulsion that led Alexander the Alleged Great to conquer lands he had no intention of visiting.

All of this cost money, a real case of chickens coming home to roost. If Fred expected students to pay $50 for his astronomy textbook, (an astronomical sum for the 40's) , it was only right that he fork out equally inflated sums to maintain the prestige of his home library. Apart from the copious stream of review copies and allowing for discounts, his book budget must have been $4,000 a year, swallowing up all of his wife's salary and beyond.

It is a dependable feature of the academic game that one tries to estimate how much knowledge the other guy has. No-one can really know what's in someone else's head, so appearances count for a great deal. Visiting the Elsassers for the first time in 1950, I had to acknowledge the soundness of his Bibliothecarean investment. It was my first attendance at one of their famous cocktail parties. Even as I stepped in through the front door , Fred's library reached over and poked me in the eye. All the other graduate students and colleagues were shuffling around the living room as if they'd been kicked in the balls.

The ostentation of Fred's exhibited library served many a useful purposes: silencing criticism; arousing envy; getting him government contracts; and keeping him in the chairman's seat of Astronomy. As I came to know Fred's library better, I began noticing certain peculiarities. It was strange that an astronomer's bookshelves should hold no

detective novels, science fiction paperbacks or magazines, crossword puzzles or pulp of any kind . It's well known that scientists blow off steam by consuming this sort of reading matter in large quantities. Had I at last encountered so high-minded a natural philosopher that he experienced no need to seek relief in such trash? Science had trained me in skepticism; and my skepticism was soon rewarded.

During one of his parties held in the spring of 1951 , Fred invited all the guests out onto the lawn to inspect a new solar telescope. I remained behind. An opportunity like this would not come again. Once certain of being alone, I ran up the staircase to the second floor and quickly mounted a ladder to the attic.

The floor space was sizable, although the many cardboard boxes piled up in stacks around the floor made it difficult to move around. Most of them were filled with science fiction paperbacks and magazines. Next to these stood row upon row of boxes filled with comic books: Captain Marvel ; Batman; Superman; Spiderman ; Wonder Woman; Mickey Mouse; Donald Duck; the Spirit ; horror comics; sadistic comics; infantile comics; sentimental comics : just about anything available at the time. Unlike the books downstairs in the living-room, one had the impression that these had been re-read numerous times. Everything was classified by date and title, so that Fred would have no trouble in retrieving them .

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Boxes holding paperbacks of pulp fiction were piled in a back room: Son of the Viking ; Bloody Demesne ; Dragon's Vengeance ; New Orleans Vamp ; and the like. My curiosity aroused, I purloined Pagan Thunder and Whip of Lilith . Then I returned quickly to the first floor and hurried out onto the lawn to join the others.

A week passed. Then Fred asked me to join him after class for a cup of coffee at the Student Union. Settled into a booth we talked astronomy for twenty minutes or so. Then Fred lowered his voice and asked me, in a tone of deep concern, if I'd taken these two books. He wasn't angry, he just needed to know. I confessed up and apologized; they would be returned immediately.

No, that was all right, he said, waving his hands with impatience. - I could keep them. He merely wanted to be reassured that no-one else would know where they'd come from. Terrified I explained that they'd already been lent to Bob Boolean. There was no point in telling him how we'd had a good laugh at his expense. Bob had been told the full story, complete with descriptions of Fred's bookcases in the living-room and the boxes in the attic. Dr. Elsasser buried his head in his hands and trembled from side to side:

"It's nothing to be upset about !" , I assured him, every bit as upset as he was , "I read comic books all the time!" Once more he begged me never to tell another soul. He at least had my word of honor on that score.

Alas, human nature being as it has always been, Bob Boolean spread the story all over campus. Elsasser felt deeply humiliated, which was a bit silly as nobody gave a damn whether or not he read trashy fiction as a hobby. Yet his fears may not have been without foundation: one of his contracts from the Office of Naval Research was not renewed in April of the following year. This could not, by the wildest stretch of the imagination, have been related to the revelation of his extra -curricular reading, yet it was unavoidable that he should think so.

The story, apocryphal at best, made the rounds that the odor of burning comic books hovered over Swarthmore for three days and nights like the wings of the Angel of Death. A ripple effect also made its appearance on the "D" he gave me in Cosmology. He would not have dared give me an "F"

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Chapter 12
Home Life

As memory is an imaginative faculty akin to the composition of an opera, the prolonged effort involved in the reconstruction of my college career (which despite its store of ungrateful revelations, tedium, monotony and crushing impalatability, I have deemed necessary), has quite worn me out. My diagnosis is one of acute university fatigue; many are my colleagues in misery. Like one who delays the urge to take a piss almost beyond the point of no return, the obligation to take a break now commands my full attention. Enough of college life! The time has come to say something about my family relations in this period.

There was much in my growth to maturity between the ages of 13 and 22 that had nothing to do with the cultivation of the intellect. Not that there weren't connections between them: life off campus life could also be seen as a banquet of many courses, some sweet some sour, to be digested on the run come what may.

My father has always despised me as a person and admired me as a mind. With my mother it's the other way round: she will forever hold my intellectual abilities in contempt. She was not at all impressed when I was enrolled in Zelosophic U at the tender age of 13. Her general attitude towards intellectual activity is that most of it is silly and useless. She only respects the practical skills of the manual

trades. That I will never wash dishes properly, or hammer a nail without crucifying myself, that I always manage to be short-changed at the grocery and still can't drive a car, are reasons enough to convince her that she'd engendered a thorough clod.

The cultural divide separating them is enough in itself to guarantee that Mom and Dad will never agree about anything. It does not belabor the obvious to state that my mother is the daughter of my grandfather. Her father was a coal miner, indeed a somewhat disagreeable one. Pushed into chronic unemployment by oil, strip mining and automation, he might have preserved his dignity had he devoted himself to the cultivation of the role of "noble impotence in the face of greed triumphant". This was most unlikely, given that he would have needed to unearth the dignity before attempting to preserve it.

Just talking about him requires that I break a silence inherited over three generations of denial. He could never have hooked up with any circle of polite society, let alone the Academy. Speaking truthfully he only came into his own in a saloon. In 1942, after the family moved from Freewash to Philadelphia, Mom forbade us, Dad included, to visit him. I tried to look him up shortly after my 16th birthday and learned that he'd recently died of complications from a broken hip.

I think of him, the only grandfather I've ever known, as the whiskey-soaked obscenity-spouting old boozer who, far

from alienating me, aroused all my sympathy and affection. A musty atmosphere of encroaching dirtiness cloaked him like an 18th century greatcoat. Before my mind's eye stands the image of a dumpy middle-aged man, unshaven most of the time, sitting for afternoons at a stretch in the living-room of our home in Freewash, either in the easy chair or on the arm of the sofa.

An old Navy pea-jacket and a woolen cap is all I remember him wearing. His body odor, which rarely knew the benefits of a bath, combining alcohol, unwashed clothing and general neglect, was penetrating as that of a pile of rotting potato skins . Between nips from a bottle he cursed out my father with a flow of obscenities I dare not reproduce.

He disliked and distrusted my father; Granddad feared anyone with even a little bit of knowledge. To credit him with the small amount of justice on his side, he identified my civil engineer father with the forces that had put him out of work. Then, my father's ethnicity was not likely to arouse his enthusiasm. Basically they just didn't like each other.

My mother's feeling towards her father might be described as a pure concentrate of disgust with no admixture of tolerance. Her reaction against him was extreme to the point of fanaticism. One consequence of this is her maddening compulsion for cleanliness. The scrubbing instinct is fully developed in her: when my father met my mother for the first time she worked as a scrubwoman at the steelworks. A pinprick of soot on anything to which she can

remotely claim possession drives her into a passion of self-pity. The ostentatious display of energy with which she will rub it off sends the clear message that the human race will never come up to her standards.

Much like the booze odor that served as an advanced signal to the arrival of my grandfather there is always a smell of dishwater about her. Her monomania horrifies even my father who is, like myself, a bit lazy. Cleaning up in the kitchen can keep her busy until 10 or 11 at night, (though rarely beyond, for she always stops to watch the Late Late Show before going to bed. However, on a day combining loads of laundry and house-cleaning, she may not turn in until 2 in the morning) . The way she curses and frets over her work might lead one to believe that she lives a very hard life, one of constant toil and abject misery. In fact, to twist the phrase of Sessue Hayakawa in Bridge Over The River Kwai , she is only happy in her misery.

I no longer live there, but I know that she will still, every Monday morning after breakfast, chase everyone out of the house so that she can do the cleaning. We were constantly being accused of being lazy bums. So convinced was she that none of us had the brains to do a decent job at anything that we were only allowed to do the most menial chores. Dad in particular is never allowed to set foot into the kitchen when she's working there. It was my job to empty the trash in the dumpsters out in back. Mom could routinely be depended upon to come running after me to lecture me

on my ungrateful habit of strewing garbage all over the place.

Nobody appreciates her: that's the gist of it. It is unlikely that anyone will ever be able to appreciate her. Appreciation isn't difficult up to a point, but after that it becomes a burden. And it isn't that which causes her to kill herself with overwork. In my opinion she works like a dog only in order to earn the right to not have to appreciate anybody else . From what I know of her, the burden of even a little bit of appreciation is too much for her.

Which is why I've always had the feeling that nobody appreciates

me ! They may have made me into a superstar at Zelosophic U. at 13. The vogue wore off by the time I was 16, yet some of the glitter was still clinging to me in 1956, when I was let off with a B.Sc. and allowed to enter graduate school. To this day, the Aleph Cantor myth continues to pursue a life of its own in some quarters.

Yet I wouldn't call that appreciation. The Roman Empire turned Christ into a god, but that doesn't mean it appreciated him. In our own time there is a long catalogue of people, starting with Bob Hope and Marilyn Monroe and continuing through to Mobutu, who receive far more appreciation than I ever have , although they inspire no envy in me. Quite the contrary.

I'm like my mother, really: nothing anyone can do will ever make me feel I'm loved or appreciated. If only it were

possible to point to some routine task , like house-cleaning, and say : "There! You see that? That's what you don't appreciate! ". In my case it's not a matter of some specific talent or accomplishment that isn't being appreciated. There is that intangible me that nobody else will ever be able to understand. One can well imagine what it was like having two persons like my mother and myself under the same roof.

My dealings with my father are simpler: we just hate each other and forget about it. As for my sister and two brothers, our relations have always been characterized by a frigid aloofness. They invariably side with my parents against me in every dispute, no matter how petty.

Take the following incident from the early 40's. It was a day in early September. Mom, Dad and I had gone to Haverford to bring me back to the Agape Institute. Not far from the train station we passed an ice-cream vendor. It was unusually hot for an autumn day, and we were all thirsty. Dad examined the change in his pockets and discovered that he only had enough money for one ice-cream cone.

My mother insisted that she get the cone. She was knocked out. She was the oldest among us. She'd worked all of her life without a word of thanks from anyone. Besides, in case we were inclined to forget it, she was a woman, right? Obviously the cone should go to her. I kicked up a row. Why shouldn't I get the cone? What right did they have to burden me with their problems? If it weren't for me we wouldn't be

in Haverford in the first place. Consider how much more it would be costing them to send me to a private school, when they could have me served up as a guinea pig for next to nothing!

Cashing in on a long tradition Mom threw a temper tantrum: she ploughed into Dad for being so absent-minded as to go on a trip without any money in his pockets. I waited for her the appropriate moment of respite before asking, in all innocence, if they were aware of the impression Mom was making on strangers, fighting with a 7-year old over an ice-cream cone.

To his credit my father did the intelligent thing. He simply dumped the two of us and started walking back to the train station. Mom had to take me the rest of the way to the Agape Institute by herself. Neither of us got the cone.

My father is nothing if not sensible. Commonsense is co-bordantly his most prominent virtue and his most outstanding fault. He is if anything too sensible. If there's a dispute , both sides are right, and if you point out that both can't be right, then you're right, too. It's impossible to argue with him. If ever you manage to get him with his back against the wall he just walks away, leaving you empty-handed and gnashing your teeth. In some subtle way he always makes you feel you've lost. Indeed, there's no way anyone can get around him. He crawls into his shell and waits until the storm is over. At the same time he's probably the only person living who can handle my mother.

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Just picture him if you will in his study, where he's been sitting alone minding his business for the last hour, being suddenly interrupted by my mother. Here she comes, rushing in with bucket and mop, screaming about how much respect she deserves and how little she gets. With her right hand she shakes off the soapy water into his face, with her left she holds her nose against the pipe odor filling the room.

Dad can't get a word in edgewise, even though she's doing everything she can to provoke him to the limit. Already she is reveling in the supreme satisfaction she hopes to derive from crushing his resistance.

What does he do? How does Abe Cantor, civil engineer, bread-winner, long-suffering and much imposed upon husband and father of four, deal with the situation? Not as one might expect from normally constituted human beings; yet his basic strategy is all the same remarkably successful. He doesn't make a big show of emptying his ashtrays on the floor at her feet. He doesn't yell something like , "Shut up, bitch!" She would love it if he did: it would supply the much needed provocation for getting worked up all over again. Above all he avoids the cardinal mistake of trying to persuade her that she is appreciated , which would be like ladling out chicken fat on a blazing fire. Nor does he heckle her, or make fun of her, or treat her like a crazy person, or any of my own self-defeating strategies for dealing with troublesome people.

He doesn't do any of these things. Following a blank stare which may be prolonged anywhere from a second to a few minutes - in which one can read astonishment but little else - Dad stands up and walks into another room. If she follows him in there he walks into yet another room. If she follows him in there he walks out of the house. If she's really persistent he jumps into his car and drives off. By the time he returns it's over. Like most people addicted to bouts of hysteria, Mom never retains any memory of her crises.

Yet even my parents were caught off-guard when the hurricane of my adolescence engulfed the Cantor demesne . It happened in the middle of the second term of my sophomore year. The date stands out in my mind: March 18, 1950. It was early morning. Mom was in the bedroom on the second floor, sitting before the mirror , engaged in pulling tufts of hair out by the roots and examining them. It's another one of her odd habits: from the community in which she'd grown up she'd picked up a belief that most diseases come in through the scalp. Dad was in his study, taking long draughts on his pipe and thinking about nothing . Well, I take that back: he was thinking about something , but I didn't figure out what it was until much later .

I'm asking myself if there was anyone else in the house. I know my siblings weren't there, because they had to be in school. Oh yes! There was someone: Aunt Margaret, Mom's sister, a daffy yet pleasant elderly lady. She was in the kitchen washing the dishes. I wasn't expected home on that

day, so when I threw open the front door and stormed into the house everyone was taken by surprise. Even Dad, who'd fallen asleep in his study, could hear me shouting as I demanded " my patrimony" !

There was a commotion in the kitchen. Aunt Margaret had just dropped about $20 worth of dishes: no doubt this would have to be subtracted from my hypothetical patrimony. Mom came running to the head of the stairs. She was dressed in her bathrobe, her face covered with some sort of facial lotion resembling whipped cream, her hands grasping clumps of hair.

"What's all the ruckus about?"

I'd been unnerved by my own audacity. My hands shook and I began stuttering. Determined all the same to hold my ground , I repeated my demands: I wanted to go out on my own. My reading of 19th century novels had informed me that fathers are supposed to give their sons a share of the "estate" when they feel ready to leave the home and establish themselves in the world.

Throwing back her head Mom, giving full utterance to her contempt , exploded into loud laughter. How did little Aleph intend to hold his own in a dog-eat-dog world when he'd never done a stitch of work in his life and didn't know the business end of a hammer from its claw? Whatever money they gave me would be gone in a week on books and other useless things, and it wouldn't be a pretty sight either to see me coming back to the house weeping and

crestfallen, with my tail between my legs like a beaten dog , asking to be let back in after robbing them of every penny.

Mark you, she wasn't lacking in sympathy for my pitiful state . It was really my father's fault that I'd never learned anything that could be used to earn my bread and butter. Her father , whatever else one might say about him, was dead right when he swore that Abraham Cantor was always putting on airs , but without half a man between his feet and his ears! Like father, like son as they say: and she laughed some more.

I was in no mood to argue with her. The urge to tell her to cut the crap was strong, however that was no way to speak to a mother. All the same my emotions got the better of me: instead of reciting from the long list of job possibilities that in fact were open to me, I began screaming that part of the money would be spent on the airplane that would put as much distance as possible between myself and them, because I hated everybody in the house, her most of all. That's when Mom started screaming also :
" Help! Abe! Help! " .

The situation had gone out of control. I picked up the nearest object in my vicinity, a vase, and smashed it on the floor. Still half asleep and rubbing his eyes, visibly annoyed because he couldn't avoid involving himself in a family quarrel, Dad shambled into the room :

"So? Nu? What'sa matter?" It was evident that he was angling for his cue to walk out of the house. My mother

came down the staircase into the living-room. Standing at the foot of the landing with her hands on her hips, she mocked me:

" Our little unweaned puppy is already talking about setting himself up on his own, and Abe, can you believe it, he'd like to take all our money to do it! I'd like to see him ironing clothes and scrubbing steps, getting up at 5 in the morning to start the Monday wash, or scouring pots and pans until after 11 at night, wearing your knuckles to the bone so you're an old woman by 40! And never getting a penny for it, neither, all for a pack of brats and a lazy, pipe-smoking husband who's too 'intellectual' to pick up after himself! "

Dad turned back as if readying himself to leave:

" I want my independence!" I raged, " I want to get out!"

He turned around to faced me: "So leave! What's stopping you?"

" You can't send me away with nothing!"

" You've always been a difficult child, Aleph. Why don't you wait until you're twenty-one? Why don't you get a job first, get married, settle down? You've got a long life ahead of you. In the meantime you'd better be thinking of some way to pay back the cost of that vase you just broke."

" Take it out of the money you owe me." I fumed.

" Owe you?" His eyes narrowed. I felt some sense of relief that he was getting angry for once :

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" What do I owe you ? I don't owe you anything! When was the last time you paid my doctor's bills? Why don't you pay me back for the time when your younger brother, Knut, was born and I had to take on night work to keep the household running? Why don't you return the many thousands of dollars I've paid out on insurance premiums to take care of Helen and you and the other if, God forbid, something should happen to me? What about all the clothes you've gotten, all the meals you've eaten, and every time you need a book, and every time you want car fare ? " - he wasn't going to forget a thing - "And when you learn to drive I suppose you'll expect me to pay for the gas. And what if you do leave: who's going to pay the extra taxes for one less dependent? And who pays the taxes that help support your university? And the depreciation on the furniture, to which you've contributed as much as anyone? And the property taxes? And that famous ice-cream cone: who was expected to pay for that? So don't talk to me about who owes who money!" - I wisely refrained from pointing out that the proper grammatical construction was probably 'whom' - "You ought to be thinking about bringing a little money into the house by now, instead of taking money out of it all the time!!" With that he returned back into his study and slammed the door.

My father, you see, is avaricious. I could never understand what he was doing sitting all alone in his study those long hours, never cracking a book or writing anything

down on paper. I finally realized that he was spending the time worrying about where all his money was going. He's informed me everso many times that every penny ever spent on me was money down the drain. I've had little contact with them over the past decade but I can still imagine him sitting there behind his cumbersome black paneled desk in that gloomy room calculating and recalculating how much I owe him.

In this regard my sympathies are entirely with him: between his four children, his wife, his relations and most of hers , Abe Cantor has got enough tsuris over squandered money to last him the rest of his days. My father's avarice should not be held against him since it is one of the things that make him what he is. It's not as if he's chosen this character trait: Dad had to drop out of school at the age of 14 to go to work to help support a large immigrant family of 10 brothers and sisters. He picked up a diploma later, then put himself through engineering school by working days and going to night school. By way of contrast his son, yours truly, has consistently thrown away every opportunity, (several of which have knocked more than once) , yet doesn't appear to be ashamed of himself in the least ! It's never been claimed that Dad doesn't have grounds for his grievances towards me .

Yet whenever anyone asks me to describe my father, the first thing that springs to mind is his avarice. Even Mom, who's rather fond herself of lingering over every penny,

finds this trait aggravating. The price he pays for his meanness in terms of the amount of ridicule he has to put up with no doubt justifies himself in his own eyes. Ever since his induction into the battalions of labor he's never worked less than 24 hours a day: each hour dedicated to earning money is matched by two hours of worrying about how to spend it. To this day he judges everything by 1930's prices, and even by that standard he appears stingy.

Before leaving for work in the morning he weighs the cost of taking the bus against the wear on his shoes, depreciated over the number of days remaining before he has to buy a new pair, combined with another small calculation involving the amount of money he could be making (at his current wages) during the time wasted in walking. He has never once in his life taken a taxi. Because of the one occasion when I hired a cab to take me from the dorms to home for the weekend, he deducted the amount of the fare from my monthly allowance.

He walks around the house looking for discarded pencil stubs. He will tear a room apart to find a dime that's rolled into a crack in the floor.

Were you to go into their basement you would discover the piles of old newspapers he's stored there. They date back decades and are never likely to be consulted. He reasons that since he bought them they're his. Mom has to harass him to get a new suit. I'm convinced he's not been promoted in 20 years from his position at the company he works for,

because his clothes make him look like a beggar just in off the streets. The way he gravitates around the house , picking up after everyone, is sheer torture for all its inhabitants.

It had to wait until my sophomore year at Zelosophic U., before I suspected that my parents might be a source of embarrassment to friends coming by to visit. Dad would follow them around the house like a starving ant-eater, picking up what they threw away, scraps of paper, little unused bits of food, pieces of string, thumbtacks, Scotch tape. Following that Mom would be right on top of them accusing them of defiling her handiwork with invisible bits of dirt.

I'll never forget the afternoon Dr. Mengenlehre stopped over for a social call. Mom opened the door to let him in . It was raining heavily. Quite without noticing it, as he walked into the vestibule he left a trail of mud on the rug. Mom was horrified. His greetings were ignored as she ran into the kitchen and returned with a bottle of rug cleaner. The smell of ammonia that came pouring out sent us running into the living-room. Affecting a level of fury that might almost be considered comical, muttering curses under her breath, she got down on her knees and began scrubbing the rug.

Hans didn't seem terribly put out. Ever the mathematician , his grey matter was too steeped in calculations for him to pay much attention to her. This was a big mistake: he didn't know Betty McNaughton Cantor. Hans

and I sat down opposite one another in armchairs and began engaging in shop talk.

Enter Abraham Cantor. He'd been washing up in the second floor bathroom. Walking to the head of the stairs he saw the two of us sitting together. Hans had brought with him a copy of the day's newspaper. As he was sitting down he dropped it onto the coffee table. It caught Dad's eye. Descending quickly to the ground level he strode impatiently across the living-room floor and swiped the newspaper without so much as a thank you. Either in too much or a hurry to say hello or not thinking it worth his while, he disappeared into his study.

Hans glanced up at me in perplexity as I squeezed myself deeper into the couch cushions , begging for some divine agency to rescue me. It was at that moment that Mom re-entered the room holding a feather duster. She was hopping mad because her little skit had aroused no reaction from its audience. Without preamble she began vigorously beating the easy chair on which Dr. Mengenlehre was seated . Profuse in apologies he jumped to his feet; her manner indicated that these were insufficient to restore him to her good graces. In desperation I suggested to Hans that we go into the kitchen where we could talk over a pot of coffee.

Hans sat down at the far end of the Formica kitchen table as I rummaged about in the cupboards for the accouterments of coffee-making. Prompt on his cue, Dad

charged in to see to it that we didn't waste any coffee . He was joined soon afterwards by Mom. Together they stood glaring at us like a single four eyed creature, daring us to make a mess around the kitchen sink. The acute agony of observing the coffee pot in its percolation was equitably distributed among the 4 participants. Once the coffee was brewed and poured I suggested to Hans that we might best continue our conversation in my room. My proposal was eagerly acted upon, particularly in the face of Mom's spontaneous decision that it was also her day for cleaning the kitchen.

Once in my room we were granted a brief respite of about a quarter of an hour. My parents would have been pleased to learn that Hans had made the trip of about a hour by car from the campus to tell me that a part-time job as teaching assistant had just opened up in the department. Another grad student was taking a leave of absence and the post was available immediately. He wanted me to have first crack at it. I accepted the job at once but neglected to inform Dad of it for several months afterwards. Why should I give him the pleasure of cutting off my allowance?

There was a brusque movement at the door. The doorknob twirled to the right as Mom stepped into the room, livid face over crossed arms.

By following the direction of her gaze one could read her conviction that Hans or myself had spilled a few drops of coffee on the bedspread or were predestined to do so. She

didn't give a damn who this Mengenlehre person was. Armed with her broom she chased us out of this room as well.

After we reached the ground floor Hans asked me to come to his office the next morning to sign some forms. Then he waited in the living-room while I went to get his coat. To pass the time he absently picked up a textbook on bridge construction buried among half a dozen books reclining in the alcove beside the couch. Curiosity about absolutely everything is one of the more positive traits of most mathematicians.

I don't know by what gift of second sight Dad divined that some stranger was looking over one of his books. It was most unlikely that he'd opened it once in the past twenty years, but he was all over Hans in a flash. I returned to the living-room with his coat under my arm to confront the intimidating spectacle of Dr. Mengenlehre being squeezed into a corner of the living-room, with Dad glowering at him at a distance of a few feet. The moment he looked up to catch Dad's eye the textbook was snatched out of his hands and ostentatiously returned to the bookcase.

There were no more incidents in the three minutes remaining before Hans said good-bye and left the house. Once he was gone I threw a classic scene. It remains in my mind, although it could not have been much different from others that were typical to that period. Leaving for the dorms the next morning I slammed the door behind me. It

would be a long time before my return, though I'm getting slightly ahead of my story.

The uproar over my patrimony died away with its eruption. I must have been a bit mad to imagine it was possible to get anything out of Dad in this way, or indeed in any way. That night over dinner he mumbled something about setting up a bank account in my name into which he would transfer a bit of money at a time until I came of age. Then, as was to be expected, he completely forgot about it.

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Chapter 13
I Go Mad

Heart and mind negotiated an uneasy truce that lasted for the next two months. Little did we know that the real storm was about to break. Fads and fashions have gone through many phases over the last half century, but in my day college students were pretty square. And it would have taken some doing to unearth a major institution of higher education more square than Zelosophic U.

Zelosophic was, (and still is as far as I know) , a raging cauldron of Ivy League conformity. At the graduate level a certain amount of lip service is bestowed on the quest for higher knowledge ; for most undergraduates it's more an institution of higher earning rather than of higher learning. 99% of the coeds enroll for the purpose of finding a husband among the 99% of the male student body, who are there to earn the credentials to land the jobs that will enable them to marry the coeds. Very few go there to actually learn something.

The social milieu within which I was forced to perambulate was particularly severe in matters of dress. One had to dress to the Ivy League standard. The co-inhabitants of my floor in the dorms looked for any excuse to treat someone like a bum. You could expect to be ridiculed if a button was loose on your sports jacket. They might turn away in feigned embarrassment if your tie weren't properly knotted. They could pretend to be avoiding being seen with

you in public if your trousers weren't properly creased. Some of them went so far as to inspect your right hand to see if it was clean before shaking it .

In retrospect a morbid hyper-sensitivity may be projected into my interpretation of their actions : I was still a teenager. Yet if there is some exaggeration in my recollection, I am not unjust in my assessment.

They were idiots. Yet because I'd entered college at age 13, while most of my peers were 18, 20 and in some cases as old as 26, it took some time for me to realize that they were idiots. My first year was rendered excruciatingly painful from the sense that I might appear unfashionable. My adolescent self-consciousness lay within tolerable limits, and it wasn't all that unusual for me to be obsessed with my appearance.

My desire to emulate the mores of the surrounding community did not extend beyond my freshman year. In that period I might have been taken for an Ivy League clothes dummy in a Wanamaker's display window[23] : drab conservative coloring, striped tie, blazer, tight-fitting scrupulously creased slacks, tennis shoes perhaps, or hush puppies, or black leather shoes with narrowly converging toes, the whole surmounted by an asinine smile without which the uniform is meaningless.

Within a few days after the beginning of my sophomore year it dawned on me that the discomfort of

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23**Wanamaker's is to Philadelphia as Filene's is to Boston.**

being ostracized by my neighbors dwindled to nothing in comparison with the discomfort of their company. Five years of frigid silence on the part of the clods living next door to me was preferable to five minutes of their conversation. Instead of dressing to please them I began experimenting with ways to enrage them. Somebody walking about with his shirt hanging out isn't thinking about his shirt. Therefore he must be thinking about something else. But what else is there to think about?

Well, if you don't know nobody's going to tell you. Being the campus genius I was one of the few people of whom it was actually required that he think about all those things about which nobody else had the faintest notion. Under pressure from all sides I found myself being mercilessly maneuvered into looking and acting like a slob. It was a matter of brute psychological survival. Thereby, because Mom had inculcated me with the dogma of cleanliness, I became a boy at war with himself: in a word neurotic. An à la mode shrink might say that I suffered from dysphoria.

The mere sensation that someone was looking at me could cause intense pain. Repeatedly, like a leper fondling his sores, I reviewed all my characteristic anomalies . If my tie was awry I knew it before anyone else. No-one needed to tell me that I looked like a freak for me to feel like one. My embarrassment embarrassed others, and their embarrassment intimidated me. My attempts to appear

normal propelled me into even greater idiosyncrasies, like a compressed spring that upon release surges outwards with redoubled force.

Life would have been simpler had I cultivated a manner totally divorced from the norm. Wearing blue jeans, Army/ Navy store togs, torn sweaters in the Einstein tradition , rounded off with moccasins or sandals, would have removed me from one category and placed me in another. They would have typecast me as someone to snub. Somehow I'd found a way of dressing in the Ivy League mode that gave off an aura of moccasins and jeans. The creases in my slacks always stuck out in the wrong places; or there might be 2 or 3 creases in different directions. It must have been some special magic that caused the pant cuffs to swell into bell-bottoms. Somehow my shoelaces were always coming untied. I often neglected to fasten my belt; I must have jammed my shirt back into my trousers 20 times a day, yet it always kept slopping out. My sports jacket looked as if it had been slept in, while my tie might have been taken for a theorem in Analysis Situs .

An unmistakable insolence in the combined impression was not apparent in the details. The very clash of colors, maroon against gold against the military black of my trousers communicated an implacable hostility. I'd become a walking affront to the merciless scrutiny of a social milieu I had no desire to relate to, but whose opinions I dreaded.

The consequent ostracism, though by no means unwelcome, did nothing to diminish my feeling of being unloved.

On the morning of May 4th, 1950, following a night of close-succeeding nightmares, I awoke to find my face covered with a dense population of pimples. Formerly smooth as a bar of Philadelphia cream cheese, it now bristled with acne. Gregor Samsa's shock could not have been greater. My first thought was that (though having no clear idea of this disease apart from its name) I'd come down with scrofula. Still half-asleep yet dimly conscious that something was wrong , I touched my face with the tips of my fingers, and screamed. It had the consistency of steak tartare , with a tackiness like drying varnish. When I trailed my fingers down my face it ran off a kind of slime resembling raw egg-whites.

I sprang off the bed and ran to the sink. A brief glimpse of myself in the mirror was enough; soon it was splattered over with vomit. Hot lava poured over my cheeks from a hundred nauseous volcanoes. In each pusy pimple I imagined the shape of some venomous black bug. Then fever hit me like a brick at the base of the skull. Shaking with chills and helpless, I stood for 15 minutes doubled over at the sink. The crisis passed, I staggered back to my bed and fell back once again into a feverish slumber.

Later that afternoon, a towel wrapped about my face, I slinked to the clinic of the Student Health Services located on the 3rd floor of the University Hospital. A dozen or so

clients were seated in the waiting room. The towel stayed wrapped about my face. Huddled over my chair awaiting my turn , I shrank from the cruel persecution of inquisitive glances. It did not occur to me that, having troubles of their own, the others might have more important things on their minds than the outrage of my appearance. After an eternity of waiting I was called into the office of Dr. Srinivasa Chakrabarty Narasimhan.

Narasimhan was a young man from Bombay with a medical degree newly minted from Philadelphia's Jefferson Medical School. Initially I found his unsympathetic manner most reassuring . It spoke the professional, it made me feel that I was in the hands of a truly competent scientist. Narasimhan asked me to remove the towel. He didn't seem particularly shocked by what he saw, although the way in which he grimaced made me think that he thought that I'd intended to insult him deliberately. Within a few minutes he'd diagnosed my case as acne in an advanced stage of infection.

"Why did you wait so long before coming to see me?" Narasimhan rasped. His contempt was all that it should be:

" It just appeared out of nowhere." My voice was hoarse and came out in a whisper " - Just this morning. When I went to bed last night my face was as smooth as that wall ." I pointed to the uniform pastel green of the office walls.

" That's tripe!" He became indignant, "It takes months for a face to look like yours. When's the last time you had a regular check-up?"

That made me think that he might be right after all. My mind was always preoccupied with finding solutions to difficult mathematics problems. I rarely looked at myself in the mirror:

" September ,1948. But there's nothing wrong with me! I haven't had even a cold between then and now."

Narasimhan began trembling with rage. For a moment I thought he was getting ready to throw the stethoscope at me. Wagging an index finger in my face he barked:

" We live in the era of Modern Medicine !! It's an absolute scandal that people like yourself, Aleph Cantor, haven't got the gratitude to avail themselves of it!! It's because of people like yourself that the United States has become a nation of pot-bellied, pimply-faced, lily-livered invalids!! Haven't you got any pride at all? Is it any wonder that Chairman Mao calls you paper tigers? "

Narasimhan began ticking off on his fingers the diseases of a self-indulgent America:

" Heart disease! Liver disease! Lung cancer! Prostate cancer! Emphysema! Kidney Disease! Brain Tumors! That's all one finds in the Land of the Free ! Your kind of America!! Hmph!!...And I suppose you smoke, too." Though everything he said was coming out in the form of a question I was unable to get in a word edgewise:

" And you have the insolence to sit there and lie to me!! Aleph, do you realize what would have happened to you had you gone on neglecting this condition for another week? Why I'd be writing out your death certificate! Blood poisoning! Gangrene! Complications! Pneumonia! What else!!" He beat a pencil on the hardwood desktop:

" People like you are sick all the time! If it's not one thing, its another. You never go to a doctor, you never get a check-up, you smoke like a fish, you eat any old damn thing..... you're dead by the age of 45 from a stroke! Or else you rot away like a vegetable on a hospital bed for 15 years!

" Frankly I'd rather be in Africa, in the Congo perhaps , in Rajasthan or Bengal, or up in the Nilgiri Hills, places where I might be able to do some good. They've never heard of Modern Medicine in those forsaken holes, but they try to take care of themselves!!"

Once again I made a vain attempt to say something; he put up his right hand to indicate that silence was the only answer permitted me.

"Let's see what we can do about that face. "

Narasimhan instructed me to lie down on the cot; then he disappeared into another room. In a few minutes he was back with a nurse, an overweight middle-aged woman with a kindly face. In his hands he held a horrific set of tools for draining the infection. He and the nurse went into a huddle over the advisability of giving me anesthetic. Narasimhan

felt that doing the operation without anaesthetic would teach me a much-needed lesson, and his opinion prevailed. They strapped me to the cot and went to work.

Srinivasa Chakrabarty Narasimhan was determined to make a man of me, even if he had to cut off my balls to do it. With every howl he let out a low chuckle. The nurse caressed my forehead with one flabby hand, wiping my face with a sponge held in the other. From time to time she murmured in my ear: " Just lie still. It's almost over." Ten minutes into the ordeal I passed out.

By the time I recovered consciousness the straps had been untied. The nurse helped me pull myself up to a sitting position. Then she sat on a metal stool to my left, regarding me with Anxious Concern. Narasimhan was at a side table, writing out a prescription. When he finished he waved it in my direction:

"Don't eat any sweets. If you can do without sugar so much the better. Don't buy anything from the corner hot dog stand, follow the instructions on the bottle and come back to see me in two weeks."

The prescription was handed over. Then he swiveled around in his chair and stared out the window until I was gone.

Reappraising this experience in the light of the accumulated wisdom of age, I feel a species of gratitude for Dr. Narasimhan. I'd walked into his office half out of my mind with embarrassment and shame. In leaving all I could

think of was the quickest way to kill him. Self-consciousness over my appearance had been completely obliterated by the passion for revenge, so much so that I ignored my facial condition for a week. Besides, with the infection drained it didn't look so bad.

The transaction at the hospital pharmacy in the basement kept me there only briefly. Acne is a common problem among college students, and large quantities of this medication were always available. I was given a dark brown bottle made of smoked glass filled with a gallon of some nasty- looking liquid; a box of ordinary talcum powder; and a roll of surgical cotton. The girl behind the counter winced as she handed over the bottle. So much disgust was combined with so little pity in that wince! I could scarcely tell if it referred to the way I looked or because of the treatment I was about to undergo.

The fever had broken and I was hungry. What little spending money I had was invested in a good dinner at an off-campus restaurant, one where the food had not yet been rendered inedible through being overrun by students. The meal restored me enough to consider taking in some extra-curricular activity. As I recall it was one of those soirées given by the French Club, with lots of phony girls watching old Marcel Carné movies and singing Chevaliers de la Table Ronde . Returning to my room around midnight I was too tired to examine my face in the mirror, and turned in immediately.

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Narasimhan's snake-oil sat on a shelf in the bathroom, untouched , for the next 10 days. In the back of my mind was the hope that I wouldn't have to use it.

Normally I am up and around by 6 AM. The morning of May 14th, 1950 found me in exceptionally good spirits. The winter had lingered, as it tends to do in Philadelphia, and I was happy to see that this was one of the early days, perhaps the first of genuine spring. I sat up and went into the bathroom to wash.

The face in the mirror knocked me off my feet.

Catching my breath I looked again. The miasma had returned, just as horrible as ever. Once again the field of my face was covered with meadows of pimples. The stickiness and the discharges were, if possible, even more intense. I felt and squeezed the pulpy mass, not certain of how to proceed. The urge to exit outdoors and avail myself of this beautiful spring day was strong, yet not so much as to outweigh the fear of having to deal with my peers.

Then I remembered the bottle of medicine sitting on the top shelf of the book case. With a heavy sigh, I crossed the room and hoisted the brown bottle by its long, fluted neck. Instructions were typed onto the label in a minuscule font, legible only by the strong light coming in through the window. They indicated that one should first apply the talcum powder to the face, forming a base for holding the liquid. The medication was to be applied 3 times per day

using the cotton wads: waking, after lunch and before going to bed.

Given that the proper design of wrappings and bottle caps is one of few remaining challenges to Western technology, it was gratifying to discover that the cap to this bottle could be twisted off at once without complication. I raised the opened bottleneck to my nose. The only way I kept myself from collapsing was by clutching the radiator. The rancid odor of rotten eggs that floated, thick and foul, over the bottle's orifice could have been a hen's miscarriage. Though I was able to keep my hold on the bottle my hands were trembling, and a thin stream of the fluid fell into the sink and spread through the cracks in the ceramic. The stain could never afterwards be removed.

The brown concoction resembled ... well, it looked like...What can one say? It looked and smelled like the contents of a bottle of Guinness stout that had received the farts of a hepatitis victim who'd eaten a dozen hard-boiled eggs. Such a stink remained in the apartment after the cap had been screwed back on that I had to run around opening all the windows.

This was the brimstone in which I was expected to saturate my face for the next three weeks !!

I was in a terrible fix. To ignore the inflammation was not only out of the question. Indeed it was impossible. The mere prospect of a renewed visit to Srinivasa's horror

chamber sufficed to make me recognize that something had to been done , and that quickly. But what could I do? I couldn't remain in this room with its abominable odor. The inbred character of mathematical research had accustomed me to exploit every opportunity to sop up what few particles of precious sunlight there were . Philadelphia is not known for its fair sunny weather: Washington and Jefferson had needed few excuses for moving the nation's capital to the District of Columbia. The keen disappointment I felt at the possibility of having to pass up the chance to partake of a matchless spring day was almost strong enough to override all other considerations.

Throwing on some clothes I gathered up my books and papers and stumbled to the door. As my right hand touched the shiny surface of the bronze doorknob my body froze: fear of having to confront the public in my present state had paralyzed my scant resources of will. Unfocused panic shook my whole being. Stunned by a pitiless fate, my knees turning to jelly beneath me, I crept back to the bed from which I'd just recently arisen.

For the next hour I lay under the covers, immersed in that Beelzebubian stench. Bit-by-bit my heart-beat returned to normal, breathing became easier, muscles relaxed until I was able to sit up and take stock of my situation. It was time to face reality.

There was no escaping it: I would have to take the medication. Dr. Narasimhan had estimated that the

treatment would take three weeks. Perhaps I could hide in my room during the day and come out at night. There weren't many classes left before the end of the term. I could work quite well in my room. For the next 3 weeks my social life would be more or less restricted to the heaps of mathematics texts, reprints and papers lying about the room and the ingratiating fumes of sulphur dioxide. That night a postcard sent off to my parents. It explained that I wouldn't be coming home for awhile. Nothing was the matter; they shouldn't worry about me.

A settled routine emerged. Late at night I would sneak out of the dorms for a bit of air and to scrounge up some food. With the arrival of darkness I ventured, a veritable Dracula in search of sustenance, out into the streets. Concealed in the shadows of the Quad, being careful to avoid groups of students, I crept stealthily along its ivy-covered walls. It could take as much as half an hour to walk to the grocery store, 3 blocks away. My presence in the store evinced strong reactions from clerks and customers. The odor of rotting eggs emanating from the strange skin coloration of my face - unlike that any known race of man yet equally disgusting to all - hovered about me like the aura of some primal curse.

After the first week my nerve deserted me altogether. That Sunday I stocked up on a large supply of groceries and barricaded myself in my dorm room, determined not to venture out again for the next two weeks. Certainly there

was enough work lying around to keep me busy. Research projects alone were enough to consume most of the waking day: active projects in number theory, homological algebra , astrophysics, functional analysis; unfinished projects, discarded projects, projects destined never to be finished yet never discarded; and stale old projects that did not sit well on an empty stomach, which had never generated much interest even on a full stomach. Hunches, conjectures, insights, wild stabs in the dark, programs , programmes.....

A week's hard work enabled me to hammer out a paper setting forth some curious results in the theory of polynomials of mixed algebraic and transcendental character [24].

Luckily the clement weather was holding because the windows had to remain open at all times. Nothing availed to remove the odor of sulphur; that stuff was worse than napalm. It permanently stained and stank up whatever it came in contact with. If a few drops dribbled onto the floor, one could not again stand in that spot without getting sick. Three shirts had to be tossed out before I habituated myself to stripping before applying the medication. Black stains had developed down the front of my body and on my hands, face and fingernails, with residues on my jaws, neck and shoulders, even down my back to the base of the spine.

24**" Jacobi-Siegel methods in the classification of equations of mixed character"- *Quadrature* , Vol.VII#6, June 1953, pgs. 153-197**

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Horrors of this genre never reach equilibrium: the smell kept getting worse. It clung to everything, books, clothing, the bedding, furniture, food. It mixed with the molecules of the air. The mean Brownian velocity of its particles could not have been more than 3 millimeters per hour. After the first week I could have bottled the air and sold it to a match factory. The aroma of rotten eggs pervaded my memories, my free associations and my dreams.

Appetite was likewise affected. The stench had induced a permanent condition of nausea and I'd stopped eating altogether. In the beginning the smell chased away all desire for food; eventually it replaced the desire for food. No longer could any clear separation be made between the odors surrounding me and my own identity. For days I lived on little else than the smell of rotten eggs mixed with the taste of vomit. Every situation has its side benefits: I no longer needed to go to the bathroom .

By the end of the second week I'd reached the lower depths of wretchedness. All extremities, the nose in particular, were swollen to gross disproportions. Periodically, or(to use a technical term from Fourier Series , "almost periodically") , I would work up the courage to look in the mirror. Staring back at me with incredible malignity was something that can only be described as the leer of a ghoul , some wizened old leper with the claws of a vulture and maw of a craven beast .

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All my clothes were filthy, yet leaving the room to go to the laundry was out of the question. My terror of leaving the room had risen to the level of a veritable psychosis. I dreaded all encounters, even those with janitors and maids. A fantasy developed which soon took on all the attributes of reality: were I to dare to step outside my door, whoever would see me first would have me committed to a madhouse for life. Faint with hunger I would sit at my desk for hours, my mind in chaos, unable to read, write or study. It seemed as if all of my research papers were covered with the scribblings of a lunatic. Like everything else in the room they were streaked with sulphur stains; I could scarcely bear to look at them.

Thrills of masochistic terror reverberated through my body whenever I touched my face or squeezed my pimples. Seized by random whims I might spring to my feet, like a puppet in the workshop of Dr. Coppelius. Chattering madly to myself, disorganized clusters of incredible thoughts whirling through my brain, I circled about the room in wide arcs without realizing it. As my dizziness mounted hallucinations assailed me: there had to be others in the room. After awhile it seemed quite normal to be talking to them. Visions, perceptions and dreams were all mixed together. I found myself in environments of increasing strangeness, under oceans, or on the continents of mysterious planets, awe-inspiring landscapes teeming with

abominable creatures that metabolize lithium and sulphur as we do on oxygen and water.

Incidents from my childhood returned to haunt me like an endlessly recycled curse. No longer was I Aleph McNaughton Cantor the 15-year old college sophomore, but Aleph McNaughton Cantor the 8-year old brat being chased through the corridors of the Agape Institute by Drs. Zwicky and Baumknuppel with whips. Or back in high school dodging bullies and street gangs. Or at home under the relentless and withering scolding of Mom and Dad.

As the angular momentum of my gyrations peaked, I collapsed from dizziness and exhaustion. I might not recover my consciousness until late at night. The interval between midnight and 5 in the morning was one of relative lucidity. Sleep was difficult. In my dreams were recapitulated all the horrors of the day. Drifting back and forth, in and out of sleep, I found myself crawling through septic tanks, catacombs and sewers. Among my recollections are some good conversations with bugs, snakes and sewer rats. The rats made me welcome, gave me bread crumbs and bits of cheese.

" Yum! That's delicious!" I said, packing in the remnants of the feast. " I was famished."

"Anytime", replied a dour old grandfather rat with greying whiskers and a pronounced squint : " There's more where that came from." His friends squeaked : " Stay with us! Down here you really feel like a rat."

" Ha, ha", I chuckled, scratching my face with my long fingernails. The rats' hospitality was compensated by an impromptu lecture on Mock Turtle functions. As I rolled over in the slime and fell into a fitful slumber, a giant water snake tickled my belly.

It could happen several times during the night that I would awake screaming in delirium. Often this would be followed by more useless attempts to open the door. I always ended reduced to a crouch in its vicinity , unable to so much as touch the doorknob. The flu that was the inevitable result of keeping all the windows open may not have been as bad as the pneumonia I could have contracted had it started to rain.

New delusions supplanted the old. This one was typical:

There are persons waiting for me to step outside the door so they can kidnap me and put me into a traveling circus as a sideshow attraction: Acne Man . I will be striped naked, all my clothes burned ; trainers will force me to walk on all fours.

Because of the hellish odor of sulphur dissipated by my taut yellowed skin nobody believes that I am, or once was human. Astonished by the evidences of my intelligence the crowds throw me peanuts, raw vegetables, old carcasses and of course rotten eggs. The sign posted before my cage explains that I lived on rotten eggs; therefore the people who throw them are not acting from motives of malice. Sometimes the crowds become unendurable. Goaded out of

control with rage, I rise up on the tips of my toes, grip the bars of my cage, and roar.

Perhaps the howls uttered in my room were not so terrible as the ones imagined in my head, for no one else in the dorms appeared to hear them. Or perhaps I chose to roar when all the other students were away in class. Or perhaps, and this is probably closest to the truth, everyone in the dorms believed that Aleph Cantor was a nut, and it was only normal that he should scream night and day.

In my increasingly rare intervals of lucidity I would sit, bent double in my armchair, and weep out my wretchedness. Life's promise was nul and void. Marriage, home, career : all now out of the question. Certainly no girl would ever look at me again. My insanity (I already knew that I'd gone insane) had ruined my hopes for a career as a mathematician, or anything else for that matter. I was no stranger to the extensive documentation on prodigies, mathematicians, musicians, and poets who'd gone insane in their youth then rotted away for the next forty years in asylums. I doubted not that my fate would be the same. Suicide became one of my chief obsessions. It may have been my determination to stay the course of my medical treatment to the bitter end that kept me from doing so. Or my shame at the failure of my previous attempt. Or my inability to leave the room.

My prognosis was grimly accurate. Interminable incarceration or an early death may well have been my fate,

had I not been saved on the 17th day of my ordeal by an timely intervention.

It had been remarked around the Mathematics Department that no-one could remember having seen me for quite some time. My reputation as a conscientious student was well established. A few of the regulars had started interlarding their conversations in the lounge during the afternoon tea, with purely academic speculations about what I might be up to. It was Alter Buba , with his greater experience of life and adversity who first realized , correctly, that I had to be sick, and set out to pay me a visit.

Alter hadn't been in this part of Philadelphia, that is to say 3 blocks west of the Math-Physics building, for 20 years. It took him half an hour of asking around and being given contradictory directions to locate the Quad. The Zelosophic dorms for male students consist of 6 buildings connected by underground corridors. In the main office he was given my room number. Another bout of inquiries led him to my residence hall.

On the way up the staircase Alter encountered one of the local goons: Stanley Hewitt, a 250-pounder with a crewcut and an erect prick that never deflated:

" Yunk man", Alter asked, " do you know vere I kin faind zee room vrom zat leetle chenius, Alef Mikna'tin Kentir? I've bin vunderink if maybe he's not vell."

Stanley squinted. Because he was in the presence of faculty he took his hand out of his right pocket:

"Aleph whoositz?" He put his hand over his mouth to help him think:

"Oh - you must mean that spook that lives down the hall. Yes, he lives here all right. " He scratched the back of his neck : " I don't know if he's in now."

He accompanied Alter up to the fourth floor and indicated the direction of my room.

" Sir: you just go down that corridor until you come to number 421. That's him. I don't really know him, but take it from me, sir, he's a real fruit-cake! Yessiree - a nut, no doubt about it! "

" En noot? En vroot-kaek? " Alter Buba glowered at him . " Vat kind vroot-kaek ? Yunk man, zat boy iz ennuder Einshtein! Zat chenius ist a mitzvah for all menkint !!" Stanley watched with amazement as Alter stomped off in a huff in the direction of my door. Then he ran yelling down the stairs, taking them three at a time: "Yeehouieeeeee!!! "

Alter Buba halted before my door. He knocked.

" Ahlif? Are you zere?" Getting no reply he waited a bit, then continued:

" Maybe like you not feelink gut? Maybe zat you are verkink too hart? You shouldn't verk so much! Let zee verld vait ennuder year for your great theorimz. Zay ain't gonna disappear!" He laughed at his own joke,

" Ven I vuz a yunk man, I verk very hart, too. Ach! How I verked! But- vit me, as zee sayink' goes: 'Vrom matzah you

don't make shtrudel! " Vit brains like mine, better I should be a plumber! But you! Vit your chenius! Verk, of course you gotta' verk; but don't kill yourself. Vait vun more year before you drop dead!" Again he chuckled.

" Ahlif; are you zere? I brinkt you a present." In fact, Alter Buba had brought with him a book of inane poems written by some mathematician at Pomona College, all about the harmony of nature and the power of reason:

" Are you zere, Ahlif? " As he continued getting no answer he turned away, a bit saddened, not certain whether or not to come back at a later time.

My horrendous shriek fell short of giving the old man a stroke.

" Ahlif!" he gasped. "Alif! Are you okay?" He trembled " Vat'za metter, Ahlif? Ahlif! You vant I should go get a doctor?"

Another shriek. Alter dropped the book and put his hands over
his ears:

" Oi!! Oi!! Manitzuros !! Vait! Alif! Vait! Don't leaf! I come right beck! " He ran down the hall as fast as his aged legs permitted.

Several local characters had been attracted by the commotion and were gathered around the staircase. As Alter stumbled back one of them asked: "What's up, prof?"

"Zere is a chenius vat is dyink, zat's vat's up! Oi Gewalt!! Manitzuros!! " He was back in 10 minutes with the

house master and a pair of toughs. Alter's sense of smell may have been affected by a touch of the flu , but the house master noticed the odor right away.

" Smells like a belch in Greasy Joe's . " He tapped timidly on the door.

" Hey! Who's in there? Open up!" No reply, He turned to Buba

" What did you say the boy's name was?"

" Ahlif Kentir." He was in tears : "Maybe like he's dead already."

The house master looked thoughtful: " Hm. I don't think so. Else we'd know about it." Buba got down on his knees and wrung his hands:

" Oi! Gewalt! Vat a bright leetle boy! Vat a gut leetle boy!"

The house master called out again:

" Hey there, Cantor! What're you doing in there?" No answer

" You say you're sure he's in there?"

Speechless, Alter nodded dumb assent.

" Well. Look's like we'll just have to knock the door down. Whew!! That smell ! " He walked away holding his nose. The two students, both football players, took up positions, left foot back, right knee bent and touching the floor, fingertips down. The house master gave the signal:

"Ho! "

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They hurtled forward, butting heads and shoulders squarely against the hardwood door. It fell with a resounding crash. Leaving Alter Buba seated on the stairwell and crushed with grief, everyone rushed into the room.

" Shit! Stinks like hell!" The house master looked around in amazement. Indeed there was something in the stench of infection, rotting flesh, the accumulated of three weeks of unwashed clothing and the ubiquitous stench of brimstone, that was not of this world. Someone switched on the light. A gasp went around the room as, petrified with horror, they reared up against the walls.

Aleph Randal McNaughton Cantor lay on his bed, face-upwards and naked, the brown bottle of medicine clutched in his left hand tightly against his chest. Its contents had spilled all over the pillow, saturating sheets and bed-clothes. The poison had dried on his hair, which now stood up in broad, matted spikes like a brownfield in wetlands. Lucifer's bed could not look, nor smell, worse.

No form of hepatitis nor jaundice could have accomplished what this medication had done to his face. Hundreds of pimples, some the size of giant warts. suppurated in the killing fields of neck and cheeks. Hands and feet, emanating odors of fungus and visceral waste, were far advanced in their cycles of decomposition. It was a chamber of death.

Wrapping handkerchiefs over their mouths and noses, they carried me out into the corridor. The room was sealed off. It would be a year before it could once again be rented out. Somebody went to call the University Hospital. With the arrival of the paramedics I was placed on a stretcher, taken down to an ambulance and driven the five blocks to the hospital. I would lie in a coma for three days .

With the recovery of consciousness I was brought into confrontation with the face of Dr. Narasimhan and its habitual sneer of contempt:

" Oh! Ho! He's coming round!"

"Where am I ?"

" You're in good hands, now, young man. Thank your lucky stars for that much. I knew I should never have let you walk out of here. What did I tell you about eating sweets?"

" But - "

"No buts ! You disobeyed every one of my instructions! You stuffed yourself like a pig on every damn thing. You didn't take you medication! Of course the infection came back ! So, you got frightened and poured the whole damn bottle of gunk over your face! What are you trying to prove, man! Don't you know that stuff can kill you?? Now don't you "but" me - I know what happened."

Why argue with him? I changed the subject.

" Can I have something to eat? I'm hungry."

" Hungry ?? Listen to him! " He jabbed a finger at me, his eyes flashing with righteous venom: "Eat! Eat! Eat!

That's all your sort of person thinks about his entire life! What else have you been doing these past two weeks? Why, you ate so much you had to vomit it all over the room! Then you went out and ate some more! I'd be dead long ago if I lived the way you do!"

He calmed down: " Now don't you worry. There'll be dinner coming along in an hour. I wish I could sit here and watch you eat it, just so you can feel what a disgrace you are." Then something or other set him off again. He exploded in an upsurge of wrath:

" Of course you're going to get something to eat! Because this hospital is in America! The biggest Eat-Eat-Eat country in the whole damn world! Ulcers ! Hypertension! Arteriosclerosis ! " Once again he rattled the litany off on the tips of his fingers:

" Diabetes! Hepatitis! Cancer! Liver ailments! Gall bladder! Why? In the name of God,? Why! " He paused a moment as if he were really waiting for my answer; then he exploded once more:

" Because you're all so damn fat! That's why! Because you throw away enough food in your garbage pails to feed my mother country, India ! Because you're always munching on something or other, then washing it down with milkshakes and egg-nogs and banana splits! Because you have more doctors than you know what to do with, and you don't even go to them! Because..... " He stopped and sighed...

" Talking to you is like talking to the wall. It won't do a bit of good."

Giving me a sidelong glance he added: "Your condition appears to have become complicated with some serious symptoms of psychological dysfunction. The staff psychiatrist will be in to see you this afternoon. You may need a month or so in the asylum. No big deal. I wouldn't sweat it."

He looked at his watch:

" I've got to go now. I bet that acne stays with you till the end of your days!"

With that parting shot he turned on his heel. Head held high, erect and proud, Dr. Srinivasa Chakrabarty Narasimhan walked off the ward.

End of Part I

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Chapter 14
Ludis Mentalis

" Near the end of his sophomore year, Mr. Cantor suffered a nervous breakdown and took a leave of absence which lasted two years...."

-Dean Hardball , College Transcript of Aleph Randal McNaughton Cantor

This overview of life on the wards of Marigold Meadows will not dwell on details. Anything that happens inside a mental hospital can be found in the outside world. The converse is likewise true: persons in the outside world found their analogue in the inmates at the Meadows: cranks, prophets of divine revelation, tedious visionaries, worthless experts, hopeless bores, nudniks, frustrated Hitlers, every sort of monster. Only a small percentage believed they'd been put there because they were mad. Such people were considered hopeless by the rest of us.

One afternoon while sitting in the patients' coffee shop I struck up a conversation with a shabbily dressed individual, somewhere in his 50's, who gave the impression of having lived at the Meadows for more than a decade. Casting furtive glances over his shoulders he warned me against talking too freely with the attendants: the truth of the matter was that we were all political prisoners. Every one

of the attendants, he assured me lowering his voice, was an FBI agent.

I found his theory intriguing: could he elaborate? Whereupon his thoughts became confused and he began to ramble. He contradicted himself frequently; apparently he believed that the attendants were also in the pay of the Soviets. I breathed a sigh of relief: at least he didn't think we were all locked up here because we were mad!

The dozen or so buildings that constituted Marigold Meadows sprawl out over a large acreage in open countryside. Some of the out-buildings are of modern construction. Its residence areas are in 4 Victorian Gothic buildings atop a hill connected through long foul-smelling corridors. At the bottom of the hill stands a laundry house and reception area for visitors. They aren't allowed into the hospital. Their relatives are brought down to visit them in small monitored cubicles on the ground and second floors. A woods begins at this point and continues on around to the left. There one finds the blockhouse equipped for the administration of ECT. The autonomous generator plant located close by is used in case of a power blackout. In this way Marigold Meadows can continue charging its charges at no extra charge.

Institutionally Marigold Meadows is part private, part public. It depends on state and federal funding, yet finds reasons to price its services almost out of existence. It's located near the village of Marigold in Bucks County , once a

lively market town, now reduced to a watering hole for alcoholics, with half-way houses for the asylum out-patients and motels scattered around the nearby roads for their relatives.

I checked in at the Meadows on June 6,1950. As I'd signed the consent forms voluntarily no-one had to accompany me on the train from Philadelphia to Lancaster. When I got off the train two attendants were there to meet me. Their manner wasn't friendly but we shook hands. Their appearance also was somewhat disconcerting, though not so much as to put me on my guard. They were rough customers , certainly, but well disciplined and with a measure of education.

Most upsetting about their conduct towards me was their obvious resentment of all my attempts to engage them in conversation. I concluded from this that they'd come to believe that mad people never said anything worth saying. Later I learned that they were under strict instructions never to talk with the inmates beyond the minimum. The ambulance in which they drove me to Marigold Meadows was equipped with a host of restraining devices, but none of them were applied to me.

When we arrived it was pouring rain with thunder coming over the mountains. We had to walk to a large parking lot to get to the main lobby of the admissions ward. I sat in the lobby soaked to the skin for over an hour before someone came to fetch me. All of my clothing was taken

from me, as well as all personal items such as watch, wallet, spare change and the like. Replacing these was a pair of regulation pyjamas and a set of luminescent green polystyrene sandals. I never did get my things back. In any case, money wasn't used on the ward. Instead we were issued punch cards to use in the commissary against money deposited for us at the main office.

From the lobby we took an elevator up to the ward. I was served a makeshift dinner, after which I was led to my bed in the dorms. Groups of inmates came out to stare at me as attendants led me through the darkened corridors from building to building . The curiosity of their gawking issued forth from faces too blank or vapid to be considered either friendly or intelligent. Clearly they regarded me as simply another distraction in an unvarying routine. My lively imagination conjured up images of monsters and demented ghouls; however my worries were groundless. Albeit strange , I would classify very few of them as being really dangerous.

Marigold Meadows was a depressing place. Why should it have been otherwise? Yet above and beyond the run-of-the-mill gloom, the lunatic howling, the extravagant antics of the exhibitionists, the tedious patter of the schizophrenics, the administrative stupidity , the long dirty corridors illuminated by 25-watt bulbs, there was something in its atmosphere that made me profoundly uneasy, something above and beyond the internal turmoil which was

the result of my nervous breakdown. The premonition that something wasn't right began from the moment that the forms for admitting me were being typed up in the Reception Area. Aimless fears would sometimes assail me without warning like sudden breezes. Indeed I was never entirely free from the sense of immanent dread.

The first chance to meet the people who would define the limits of my social life for the coming year came over dinner the next evening. They exhibited a kind of belligerent sociability, as if eager to take possession of me at once. Few of them bothered to hide what had brought them to the hospital, making it relatively easy to classify them by the primitive lexicon of folk psychology we all imbibe from the ambient public ignorance: paranoid, schizophrenic, autistic, manic and so on.Though in the beginning some of them did make attempts to scare me just for the fun of it.

I was also given serious warnings of the potential dangers one had to face through being incarcerated at Marigold Meadows. After dinner an inmate took me aside to warn me away from walking too close to certain installations and other places on the grounds. Others counselled me that Marigold Meadows was a bad place, much worse than those mental hospitals which supply all the horror stories filling up the pages of the newspapers. Certain individuals were indicated as best avoided. This information was not sufficiently specific, being shrouded in a general lack of communicativeness that may have had its origins in reserve,

or fear, or perhaps distrust of my own person. From all my attempts to draw my informants out as to specific incidents, I received nothing more than vague references to unspeakable deeds, over which a veil of silence then quickly descended. My initial tendency was to skepticism. How could one hope to filter out what was true from the inventions of their over-active imaginations? My apprehensiveness encouraged me to deny the presence of any real dangers in a universe that already filled me with considerable anxiety.

Yet I could not deny that there was a disquieting consistency in the warnings I was receiving from all sides. From the teen-age boy whose elongated head was shaped like a broken carrot-stump, to the slovenly old wretch who was in the habit of defecating in the corners of the inmate lounge, to the saintly divinity student George, or the garrulous loud-mouthed and foul-mouthed farm laborer (whose name I don't recall but who was more often in restraints than not) , I was warned against associating with more or less the same collection of people. Everyone warned me away from the frame buildings in the woods in the vicinity of the asylum farm. [25]

25**I visited the farm a few times, though I was never given a work assignment there. It was never clear to me whether farming was considered therapeutic or whether Marigold Meadows, strapped for cash though charging the families of its inmates astronomical fees, merely wanted to save on the cost of vegetables. In a short time the question itself became irrelevant.**

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Warnings against walking too close to the ECT shack were superfluous. The staff psychiatrist at the University Hospital had stated on my admission forms in unequivocal language that I was not to receive any form of heroic therapy, such as ECT. insulin shock or lobotomy, but I had no intention of trusting my fate to a scrap of paper: I avoided the blockhouse as I would a kennel of rabid dogs.

Into the second week of my stay I was introduced to the director and chief psychiatrist of Marigold Meadows: Dr. Jan van Clees. We conversed as between professional scientists, something I'd come to sorely miss from the general population. And, as befits a member of the educated elite, van Clees lost no time in flashing his credentials. What I didn't learn from him during our conversations was later gleaned from articles in psychiatric magazines, and a long profile of him in Psychology Today .

van Clees had taken his medical degree at Leiden University in the 20's. He boasted to me that modern medicine had originated in Leiden in the 18th century when it was under the direction of Boorhaeve. One would surmise that Boorhaeve had taught him personally and considered him one of his prize disciples. This inspired little confidence in me: it was difficult know when van Clees was living in past, present or future.

In 1926 he'd gone to Vienna and Zurich for a concentrated bout of indoctrination by the Freudians and Jungians. But the most decisive influence on him had been

Watson, the father of Behaviorism, with whom he'd studied for a few years in England.

Despite his formative influences van Clees' brand of Alienism was distinctly his own. He revealed to me that he'd developed a taste for mental asylum work through his private practice. That was where he'd discovered his aptitude for tackling the really tough cases, that is to say, psychotics. Strangely, he openly boasted of the high percentage of suicides among his early patients. Rather than interpreting this an an indicator of his incompetence he took this to mean that they came to him as a last resort, when they were almost beyond hope anyway. This he somehow considered a compliment.

van Clees kept up his practice in Holland all through the German Occupation. No one would deny after meeting him that he'd figured among the many psychiatrists in Germany and the occupied countries who eqxperienced no existential Angst from their participation with the Nazi program of extermination of the mentally ill. On the other hand, he didn't impress me as being notably anti-Semitic. Knowing that I was Jewish he was quick to assure me that he greatly admired a race that, though imbibing neurosis with its mother's milk, still managed to thrive.

I've learned from acquaintances in psychiatric circles that Jan van Clees can never return to Holland. A dense cloud of obscurity covers his activities under the Third Reich. In 1947, after knocking about Europe for a few years, he

came to the United States. At the time of my stay at the Meadows the details of his naturalization were still being hammered out. In 1953 he rendered valuable services to Sidney Gottlieb during the MKULTRA program of the C.I.A, as well as working for several years with Ewen Cameron at his Allen Memorial Institute at McGill University in Montreal. [26] He became a a full citizen in 1965.

From our initial conversation I received the distinct impression that van Clees held fixed ideas about the causes of mental illness. One of them was that all psychosis is caused by deeply repressed latent homosexuality. Within 15 minutes he'd begun closely interrogating me about my sexual habits. Then I was administered a battery of tests designed to measure my attraction or aversion to different kinds of males. I was very afraid of him and didn't try to act the smart alec. It wasn't that he presented any physical threat; his interest in me appear to be purely clinical. But when you find out that the theories of madness maintained by the chief psychiatrist at your madhouse are crazier than the delusions of its inmates, you really begin to tremble.

26**Throughout the decade (1953-63), while D. Ewen Cameron was president of the American and Canadian Psychiatric Associations, president of the World Association of Psychiatrists, director of the Allen Memorial Institute in Montreal,chairman of the department of psychiatry at McGill University and professor of psychiatry at Albany Medical College, he was receiving funds from the CIA to run torture chambers at the Allen Institute, set up to study brain-washing and memory destroying experiments on his patients while charging their families exorbitant fees. (John Marks: *The Search for the Manchurian Candidate* , W.W. Norton, 1991)**

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It hardly surprised me that he affected to disparage any of the observations I made concerning myself. van Clees was very much the modern psychiatrist and he relied only on tests. He also manipulated me into certain situations in which he could be very rude simply to test my reactions. One of the first things he did in our interview was to take a pack of cigarettes out of his jacket pocket. After making an ostentatious show of lighting one for himself, he put the pack away again without offering me one. This had little effect on me. - smoking was to become a plague for my existence for decades afterwards, but that came later - but his eyes immediately narrowed into little microscope objectives like a 2-slit quantum experiment as he watched closely for my reactions.

Still, when I left his office he made a sincere attempt to be cordial, shaking hands with me and patting me on the shoulder: "You're uh goud kid." he said, "You got left lots ouf life to you."

A few days later I was called back to his office for more tests. On his desk stood a slide projector. First came a series of slides depicting naked bearded men with similar physiques but different kinds of beards. I was instructed to rate them for attractiveness on a scale from 1 to 20. The next series showed beardless men, again all naked, of different ages and body builds. These were rated on the same scale.

The final series paired images of conventionally masculine men beside conventionally effeminate ones. As each slide flashed onto the screen I had to write down my preference between the two. Though the point of this exercise was beyond me, I did remark to myself that none of the bodies he was showing me bore any resemblance to Van Clees himself: grotesquely fat, let us say bullish with meaty fists and cheeks, cheerless eyes liked hard marbles swimming in mushy slime , forehead high as a cliff-face over a hard unsentimental grimace suggesting latent capacities for cruelty. Obviously he didn't want to hear that any inmate was attracted to his body!

Towards the end of the second session, Van Clees , without noticeably relaxing his normal state of tension, made an attempt to introduce a tone of professional camaraderie. My reputation for wizardry in mathematics had preceded me : Marigold Meadows needed a statistician. In addition to giving me a sense of purpose, I would be receiving important privileges not accorded to the other patients. His offer was accepted. It was a wise decision: I am alive today because of it.

Daily life at Marigold Meadows was conducted at a high level of regimentation. In my preconceptions I'd pictured a mental hospital as a kind of warehouse for lunatics. Nothing was expected of them and they simply rotted away for 20 to 40 years. In 1951 the Thorazine revolution, which emptied the mental hospitals (and which appears to have produced

both benefit and harm in equal proportion) was just getting under way. I'd anticipated that the inmates, being out of their minds with boredom (as well as being simply out of their minds) would keep up an unholy din from dawn to dusk, devising modes of crazy behavior for the diversion of family, doctors and friends.

Marigold Meadows was nothing like this; Marigold Meadows was no Bedlam. The chaos one associates with the metaphorical Bedlam was as far removed from the ambiance of Marigold Meadows as a traffic jam is from a hospice, its operant philosophy as modern as the steel, glass and concrete squat box of modern architecture. Alienation was the dominant key; those inmates who'd imagined they'd be allowed to raise hell should have found some way to have gotten themselves incarcerated elsewhere.

A breaking-in period of a week to 10 days was allowed in which a newcomer was oriented and given a chance to familiarize himself with the rules and regulations. Real therapy at Marigold Meadows began with a stay in the Spartan Observation Tank, a plain, sealed-off parallelepiped room located on the second floor Not a scrap of reading matter was provided , not so much as a pencil stub, but there was a television set. Ten windows were placed around the room's walls at eye level height. Any time of the day or night doctors, nurses and attendants could look in through them at the patient within. He on the other hand could neither look out through them, nor know if and when he was

under observation, nor by whom. What this meant was that every private function, sleeping, eating, defecating, etc. had to be performed under the continual impression that somebody on the outside might be watching in.

One's flimsy pyjamas and styrofoam sandals were changed every other day after a visit to the showers at which either a doctor or nurse were always in attendance snapping photographs. The color television fixed to the wall was set on a single channel, that couldn't be turned off or changed, and broadcast nothing but the most ignorant drivel. After only a few days in OT one's sense of identity totally evaporated. Under the pressure of being surrounded by an invisible world of beings one began to feel invisible oneself. As the TV only accelerated the process, I am forced to the conclusion that its presence was intended for that purpose.

A patients weren't released from OT and returned to the open ward until the doctors had confirmed that his state of abjection was sufficiently advanced to make him ripe for conditioning. He was then allowed to rest up for a week or so before beginning the next stage in the regime of zombification. My stay of only 3 days in the Observation Tank was relatively short. Patients at the extremes, either belligerent and violent or pathologically withdrawn, might be locked up in it for months at a time. van Clees, or members of his staff may have decided that longer exposure to the TV for someone at my intellectual level could have the effect of

sending me into genuine insanity. The diagnosis at the time of my admission to Marigold Meadows was acute nervous exhaustion, without any of the customary labels of schizophrenic, paranoid, manic-depressive and the like.

Following the Observation Tank inmates moved along to the Training Module. As a difficult subject, deemed all but untrainable , I was kept in TM for two and a half months. Training consisted of fairly crude yet relentless stimulus-response conditioning; in fact a kind of simple-minded textbook Pavlovianism underlined all forms of therapy at the Meadows. We resided in a universe run by bells, whistles and sirens. A siren woke up entire wards every morning at 5 AM. In the absence of this noise the inmates might continue to sleep on for days, even weeks. I know this because this side benefit of the conditioning was employed on obstreperous patients in a special ward at the other end of the Meadows as a disciplinary measure .

Bells signaled the beginning and the end of meals, and structured the working day, (All of us had part-time jobs and chores connected with the running of the hospital) . Every inmate at the Meadows took his afternoon nap at 3 PM in response to a whistle going off at that time. Playing games, writing letters, dressing and undressing were inaugurated or terminated by high pitched whistles. Shrill sirens stimulated us to elimination and excretion. We waxed docile or violent, jovial or terrified from the transmission of certain melodies through the speaker systems. Because of a certain

combination of sounds, one could find an entire ward in a state of extreme depression, talking only about wars, calamities , dreadful accidents or sudden death. Likewise a complementary set of signals could have us leaping and yelling all over the inmates' lounge, kissing one another, exhibiting our privates, picking our noses and things of a similar nature.

Even conversation and, to a certain extent, the very content of our thoughts was suggested and enhanced by carillons of bells. A brief experiment to see if my mathematical abilities could be enhanced by appropriate conditioning was abandoned once it was discovered that they actually deteriorated under such a regimen. Natural talents productive under their own necessity will be drastically inhibited when forced.

10 weeks in the Training Module were required to get me to wear my conditioning like a strait-jacket. A buzzer wold start up: I would immediately begin jabbering away, with or without an audience. With the cessation of the buzzing my monologue came to a complete stop. I wouldn't know I was hungry without being so informed by a certain siren. A certain vulgar, insidious noise would have me doubled up with hunger pains.

Sexual appetites were similarly regulated. I leave it to the reader's imagination to conjure up the methods employed by Marigold Meadows to inculcate in us a psychological condition whereby a certain soft tinkle got us

drooling like lechers, while loud clangs could freeze all our vital spirits, converting every one of us, instantly, to vengeful and frigid prudes. That part of my soul which continued to resist this methodical rape wondered what all this was leading up to. It could not be denied that the psychotics, (real or alleged), in our midst desperately needed some well-regulated routine. The system of bells provided at least that much. It got so that one could predict to the minute when a certain bell was likely to go off. Most of the time in fact the signals were almost superfluous: one imagined them sounding off at the right moment, and one's body responded on cue.

As one might expect, the period in training was not without its casualties. Some of the patients, particularly ones with some form of incipient Parkinson's Disease, developed epilepsy. The signals triggered seizures rather than conditioned responses, or else they might drool at the mouth and go into catatonia. Some inmates turned violent and began attacking the others, I witnessed one suicide during my stay in TM. Coming from a scientific background I knew that progress can't be made in any field without a large amount of experimental error: little matter that the majority of us were paying the costs to be used as guinea pigs.

Life on the wards was entirely regulated by the noises to which we'd been conditioned. Marigold Meadows held 10 wards, segregated by gender, with a maximum capacity of 50 inmates on each of them. On our ward there were 3

attendants who had almost no work to do except take notes and fill out daily progress reports. A medical doctor came onto the ward once a week for an hour or so, and each of us received a private interview of about half an hour with a staff psychiatrist once a month.

It took me about 2 months on the ward to regain a semblance of awareness of my surroundings. Much of what I saw going on around me was incomprehensible at first: the sufferings of my nervous breakdown combined with the 10 weeks in TM had grievously handicapped my capacity for independent thought. The first real break in my illness, my cure if one can call it that, came with the dawning realization that something was wrong, terribly wrong, with the way things were being run at the Meadows.

Among other things, the system of commands kept breaking down; sometimes they went haywire. The normal time for "light's out" was 9 PM. Once every 5 days or so the breakfast bell would start ringing instead. In a flash the ward became charged with frenetic activity as the inmates threw off their covers and raced down the corridor to join the line-up waiting to enter the dining area. With everyone lined up and waiting (this happened about once a month) the pissing gong would spontaneously activate. What had been an orderly queue degenerated into a riot with everyone attacking his neighbor to make it first to the lavatories .

On a day in March of 1952 the pissing gong went off ten times in a row. Driven by our insistent compulsion to

urinate, the supply of urine dwindled to naught. Rather than coming to our aid, the attendants, like so many blocks of stone, sat in their office in the ward behind a screen of shatterproof glass, impassively taking notes.

Then on an afternoon in June of 1952 all the signals of our conditioning went off at once.

A Pandemonium worthy of Paradise Lose descended upon the ward: It would have broken Hogarth's pen: urgent pulsations to eat, piss, shit, talk, sleep, write, screw , meditate, exercise, labor or study penetrated our enfeebled brains without pity. Chairs flew like cannon balls through the afflicted room. Epileptics rictused about the filthy linoleum, their legs kicking in vicious spasms. Insensible to pain, shards of broken glass lacerated their bodies, leaving tracks of blood all the way down the corridors. A maniac slit his own throat with a sliver from the shattered window-panes. Another was electrocuted when he jammed his fingers into an exposed electric socket. Instant death came to one catatonic from the congealing of his whole metabolism. Heads butted against cinderblock walls; one's mind reeled from the sound of cracking skulls.

An athletic teen-ager with very little wrong with him, who should never have been committed to the Meadows except that his parents wanted to get rid of him, climbed along the water pipes and onto the ranks of shielded neon lights. From there he began hurtling in wide arcs, shouting obscenities and dropping shit on everyone. My

face and clothing were covered with it. I slid out of my styrofoam sandals; they were saturated with blood . An autistic inmate was mauled by a much feared bully who'd terrorized the ward for several months, his body stomped into a mass of viscera and bones. One of the sex maniacs broke all his teeth with a hammer, crying "Mother! Mother!" At the far end of the lounge, someone was breaking his bones with staves torn from tables and chairs.

I shriveled up in a corner of the ward, yelping like a lost puppy.

Someone grabbed my legs from behind. Lifted high off the ground I was spun about a number of times before being flung down the length of the corridor. Just before smashing up against the far wall I caught a glimpse of the 3 attendants, safe and unruffled behind their shield of shatterproof glass, assiduously taking notes.

The final reckoning for this engineered catastrophe - for it could have been nothing else - tallied 10 deaths, 18 mutilations, 30 hospitalizations, 8 incurable insanities. The comforting delusion that these unfortunate coincidences were all due to malfunctioning electronics was tenable no longer.

10 days later I was called back to the main office to resume my duties as a statistician. Until then these dull, routine calculations had, like every other activity at the Meadows, been done unthinkingly, the data stretched across the pages nothing more than a jumble of

meaningless numbers. Now I began setting facts and figures within a meaningful context. As a coherent picture gradually emerged over two hours of patient study, my blood froze. One correlation after another supplied the irrefutable proof to my ugliest suspicions: Marigold Meadows was nothing other than a gigantic psychology research laboratory directed by a team of behaviorists without conscience, scientists cynically inured to all human sensibilities, who played with us as children play with toys, who for months, perhaps years, had been subjecting its inmates to cruel collective experiments that had nothing to do with making them well!

Now something I'd seen in the face of Van Clees in our initial conversation came back to me. Stored in my subconscious mind all these months it suddenly erupted into the light of day..... those cold, piercing eyes, hard as agates, filthy with septic ooze, opaque, impenetrable in their resolute inhumanity, seething with animal rage. Nothing lived in the mind that stood in back of them, nothing beyond manipulation and calculation: data, distributions, trends, stripped of all human reference, a mind equally contemptuous of affection or pain, whether of others or its own.

A sudden apprehension of the full horror of the situation swept over me like the delayed shock wave from a nuclear detonation: even the so-called tests for latent homosexuality had been a ruse , the first rung on the

ladder of deception, a way to misdirect my suspicions. Indeed I little more than a lab rat, Marigold Meadows a gigantic maze, the latent homosexuality tests the doorway by which I'd been inducted into its endlessly meandering corridors. Van Clees' purpose in administering those tests had been only to observe my resistance to being forced to submit to such rubbish!

Trapped! Trapped and slated for extermination! Trapped before knowing how, when, or most dreadfully, why I 'd been among those selected for the trap !

Restoring order and calm - the experiment had been restricted to this ward, the rest of the hospital serving as control - took all of the month of June. Then it was announced that, because recent events had undone our conditioning, we would all be obliged to undergo recycling through the Training Module . On my numbed fingers I counted off the weeks which ran into months until my turn to be sent to the Observation Tank before being handed over to the ghouls in TM. For a certainty nothing one might designate as my soul could hope to survive this new ordeal. My fate, granted that I survived, would be as a being unfit for anything but to serve as a behaviorist's rat for the rest of my days.

Every week now two or three inmates were disappearing off the common ward. With the same frequency they were replaced by persons newly released from TM. They sat around uselessly, slumped over the card tables in

the Rec Center, unless reactivated by the ringing of bells and other signals. Those of us who had survived the slaughter were temporarily freed from the effects of the conditioning. We made desperate efforts to awaken these pitiful victims, but we were no match for the psychiatrists of Marigold Meadows. At the first sign that our attempts to reach out to these darkened souls were beginning to get somewhere, an attendant would sound an alarm. We found ourselves being manhandled down the corridors and locked up overnight in the dormitories. Eventually those of us with a remnant of sanity avoided all contact with these new releases and, like the attendants and doctors themselves, regarded them at a discrete distance merely as objects of curiosity.

But with the passage of weeks we began noticing dramatic changes in the caliber of zombie being sent back to live with us. Human only in their outward appearance, their eyes turned inwards, one had the impression that all connections between their sense organs and their brains had been severed. Scars on the scalp, temples and forehead told the rest of the story: they'd been conditioned for life ! No amount of rehabilitation could ever restore what had been cut out of their brains. Broken as we were by our mental illness, the recent catastrophe and the lingering effects of our previous conditioning, we shrank from speculating as to what was going on in that sinister building

in the woods at the bottom of the hill. Yet we had to do so, else we would not survive.

Heads bowed low almost to the ground, arms hanging heavily at their sides, they walked aimlessly, either in endless circles, or up and down the corridors, shuffling their feet as if driven by programmed instructions penetrating the sludge of their consciousness through endless repetition. When not so occupied they slumped in chairs or leaned against the walls, their heads rolled over to one side. As their spittle descended, unimpeded over their chins and onto their clothing, their tongues, split by the surgeon's knife, dangled freely in the void.

Yet: they spoke ! They spoke indeed, though only when activated by the conversation bell. They babbled uncontrollably, with a terrifying silliness, recounting the strangest things: garbled childhood memories , dirty jokes in which the punchline was always getting lost, old baseball scores, weird reincarnations of news headlines two decades past, popular songs and advertising jingles monotonously rattled off in a terrifying monotone, worn out political slogans; something like a television whose channels are being switched back and forth at random. Nothing in their thinking was able to rise above the chaos of free associations so dear to Freud and his disciples.

Those who were taken off the ward a second time never returned, their hideous fate forever hidden from us . By the beginning of August, among the 15 inmates still

waiting to be remitted through TM, only 6 retained the use of their intellectual faculties:

There was 19-year old Pauline, the ward transvestite. Apart from her feeling more like a woman than a man, there was nothing wrong with her. Putting her into a mental hospital was utter folly. She'd been picked up for prostitution in the town of West Chester, 20 miles east of Philadelphia. The local authorities had felt uneasy about locking her up in the county jail and all the state hospitals were filled. After awhile, for reasons of his own, van Clees had seen to it that she would never be able to leave.

Bill, retired seaman and merchant marine, was in his 60's. An alcoholic for most of his life, he'd stayed on the wagon throughout much of the 30's and 40's, but the strain of active service in World War II had broken his resolve. In 1949 a failed attempt at suicide had led to his commitment at the Meadows.

Twenty-two and a brain-damaged epileptic, Jack was the complete opposite to Bill. He'd been in and out of mental hospitals since his early teens. Tough, hardened and cynical, he was prepared to die rather than allow the further mutilation of his brain.

George, to whom we've alluded in previous chapters, was a particularly sad case. In 1947 he'd been dumped in Marigold Meadows by Villanova University . His hometown parish had raised the money to maintain him at the Meadows for three years. Then a new priest replaced the one

who'd befriended him, and he was left to fend for himself. By that time the doctors had concluded that he might be a particularly valuable experimental subject and kept him on free of charge. George never fully understood what was going on around him. His trust in mankind, touching, even admirable though painfully naive, made it impossible for him to fully grasp the fact that we were in the clutches of monsters.

Then there was a middle-aged individual known to us only by the nickname of "Q" . He was little more than a brute and everyone on the ward avoided him. He loved to boast of his exploits, claiming to have pursued a dozen professions on the outside, Marine, bartender, butcher, prison guard, security guard, cop. True or not, his stories could alternately chill or disgust, depending on his mood. Rumors circulated around the institution that he'd murdered his wife and children. These were only ugly, though probable suspicions; but this much was known for a certainty: he'd been transferred to the Meadows after 15 years in the state's Forensic Institute, euphemism for the Hospital for the Criminally Insane. Undeniably, his skills were essential to the success of our project. In all other respects we gave him a wide berth.

Finally there was myself. Young, inexperienced, not used to dealing with people or emergencies I was , being intelligent and better educated , put in charge of operations. Everyone else on the ward was functionally disabled,

retarded, catatonic, lost in delusions and hallucinations, or permanently incapacitated in some other way. We had only ourselves to depend on, and only ourselves to save.

Things came to a head sooner than expected. Jack had been assigned janitorial duties in the administrative wing, where he had learned through the grapevine that Bill was slated to be returned to the Observation Tank the day after next. Any plan for our escape had to begin with the immobilization of the 3 ward attendants. One could hardly call them attendants in the ordinary sense, given that they were rarely called upon to maintain order. It is more than likely that they were doctoral candidates in behavioral psychology with van Clees as their thesis advisor. Whatever the case, all three were similarly distinguished for callousness, and singularly devoid of affect.

Involved in the decision that led to my appointment as leader was the hope that there should be no loss of life. Accordingly Q. and Jack were relegated to the latter phase of the operation. Pauline had learned, through that instinct which is always blind yet never errs, that one of the attendants was homosexual; it was he in fact who'd been assigned to that night's shift.

9 PM and Lights Out. By 10 the ward was hushed; one might have heard a feather floating through the air. The unwholesome atmosphere, dark and sinister, lay in thick blankets over the lines of the recumbent bodies of peacefully breathing zombies, Pavloved psyches, devastated souls and

assorted villainy. Behind the thick pane of glass separating the his office from the ward, the night attendant sat collating figures under the dim light of a table lamp. Around 11:30 he stood up and left the office to get a bottle of beer from the staff kitchen.

A corridor, dark even in daylight, lugubrious at night, connected the patient lounge, offices, linen closet and showers to the locked dorms. At its far end was located the Rec Center and the staff kitchen. Walking through the corridor with the assistance of a pocket flashlight and cautiously tapping the walls, the night attendant found his eyes come to rest on an astounding spectacle: it was Pauline , standing in the corridor. She was costumed and perfumed. The provocative posture in which she leaned her left arm against the wall was probably that which she'd affected on the streets of West Chester. All of us had contributed time to manufacturing her dress from purloined sheets. From a slit on its left side one could see protruding an ungainly knee cap and hairy leg. Her eyes literally swam in pools of mascara. The well-crafted illusion of a fabulous wig heightened her persona of 19th century Southern belle. On each side of a mouth made lurid by a bloody lipstick fat cheeks dripped powder and rouge.

The attendant, petrified and fascinated gazed, unable to respond. Pauline sidled up to him. Her breathing was husky as she stroked his neck and whispered into his ear:

" Yuh goin' anywhah' tuhnight, huhney? "

All his features became inflamed. He could have ordered Pauline back into the dorm had not anticipation and excitement rendered him speechless. Tearing himself away the attendant staggered down the hall. Twenty minutes later he emerged from the Rec Center with a bottle of beer. Pauline was still there waiting for him. Now livid with fear the attendant flattened himself against the wall.

" C'mon honey! ", she cajoled.

"Gimme a litt'bit of yo beer. " Thoroughly aroused and beside himself he passed over the bottle, as his free hand rose in readiness to make a pass at her.

..... After delivering the blow to the back of the head, we tied up the body up in the bedsheets. Q. had the same build as the attendant. Once the attendant's body had been rolled into his bed and covered over with the sheets, Q. stepped into his clothing and replaced him at the desk of the night office. Bill finished the bottle of beer. As it wasn't clear to George whether the attendant was living or dead, he recited enough prayers over the body to cover both contingencies. Then we all went back to our beds. Sleep was scarcely to be thought of as we all waited in terrified anticipation for the advent of dawn.

Normal wake-up time was 5 AM. Luck for once was on our side, and the doctors were pulling some funny business by ringing the sleep bell. No one stirred; the dorms might have been taking for the lying-in rooms of a morgue. Shortly afterwards the two other attendants showed up for work. Q.

had left the office before their arrival and hidden himself in the linen closet. Their assignment for that morning was to observe and estimate the depth of our slumber. Methodically they began making their rounds, unlocking the dorm rooms and examining each bed in turn.

Following through in accordance with our plan Jack launched into the simulation of an epileptic fit. The attendants unlocked the door to his room and ran inside. One of them put a pillow over Jack's head (which shows how much these "attendants" knew about epilepsy) while the other held him by his feet. Preoccupied as they were with this sudden emergency, neither of them noticed Q . (in complete disobedience to my instructions) creeping up on them from behind. With his strong arms he lifted them high in the air and cracked their skulls together; they died instantly. George, close behind him, had already begun delivering extreme unction.

Pauline hurried over to my bed; there was no sign of Bill anywhere. We set out to look for him. Twenty minutes later we discovered him in the staff kitchen slugging bottle after bottle of beer into himself like a dehydrated survivor from Death Valley. Already he could no longer be counted on.

Even worse awaited us on our return to the dorms. Jack's simulated seizure had suggested to his over-burdened psyche the possibility of a genuine one. The spectacle had driven Q mad; he'd placed a pillow over Jack's head and was sitting on it. Then Q. saw us walking into the room and

went berserk. With the fierce instinct for murder pounding the veins of his temples, he sprang off Jack's corpse to catch Pauline with a lunge. It took him about 15 minutes of concentrated labor to "strangle the dirty queer" - time enough for me to run down the hall and activate the emergency alarm bell. Between a fate worse than death and death itself
one does not hesitate to choose the former in the immediate presence of the latter. The alarm was wired to simultaneously alert the hospital and the local headquarters of the state police. They arrived in less than half an hour. By 7 AM the rebellion was crushed.

The mortality was staggering: Jack suffocated. Paul strangled. All the attendants dead, Q. having gone to the bed of the remaining one to finish the job. Then he'd roamed freely through the rooms, killing 5 of the inmates. Q himself killed in the struggle. Because Bill was deemed the sanest among us, he was taken down to the police station and lodged in the County Jail. Only George and I remained alive, in anticipation of what unknown horrors awaiting us before the end of the day.

They came for George at 2. His body was dragged across the floor, scraping along on the tiles like a disabled refrigerator being hauled out to the street, the froth dribbling from his mouth bathing his anemic face , scraping blood across the tiles, his head banging into furniture. The attendants had their work cut out for them, peeling his

hands away from the legs of tables and chairs he grasped in a vain effort to save himself. His wretched, piercing screams ring in my ears at this very moment of writing. Intense pain accompanies even the recollection of them.

His low voice raw with terror, George cried out to Christ, to the Virgin Mary, to all the saints. We all knew that his mind had collapsed when he began hallucinating. From his babbling one gathered that he imagined that the Inquisition was taking him away to interrogate him in its secret dungeons In a kind of frenzy his list of nameless heresies was shouted out in their Latin names that meant nothing to us.

Much as I felt for him, I had to worry about myself. My turn would be next. It came at 4 o'clock. The spectacle of George's removal had had a sobering effect on me, and I was determined to remain calm in the face of the inevitable. Yet when the two stocky attendants presented themselves on the ward demanding that I come with them, I broke down and wept like a baby. All my muscles went limp; they dragged me off the ward as they would a bag of trash, my shoes trailing along the floor. All my forces failed me in a total surrender to paralysis of body and mind.

As I was pushed out the main door of Marigold Meadows, the summer sunlight hit me full in the face like the crest of a tidal wave. It had been several months since I'd been permitted to walk around on the outside. Fertile breezes tenderly caressed my fevered cheeks. The flower

gardens bordering the walkways were in full bloom; yet there was no joy in my heart. It seemed to me as if all natural things, from the dark elms overtaxed by their rich mantles of leaves, to the hovering birds in their innocence and curiosity, were banded together as mute witnesses to the nameless atrocities about to be inflicted on my helpless person.

I was wrenched into a strait jacket. The attendants would not have hesitated to break my arms in doing so, and my right shoulder was badly dislocated. Even with physical therapy the pain did not subside for another 4 months. I was strapped onto a portable metal-framed Army cot and hoisted through the back door of an awaiting ambulance. An attendant climbed in with me, secured the door and injected me with a drug. It induced a deep stupor without putting me to sleep altogether. The other attendant jumped up behind the steering wheel and we drove off. We bounced along for several miles via a roundabout route that entered the woods from some distant location.

Finally the ambulance pulled up before the door of a small two-story frame building. Neither within nor without was there anyone visible from the grounds. The back door of the ambulance was opened; the driver descended and walked around to the back. Together they lowered the wheels underneath the cot and placed it on the ground. I was wheeled through the front door of the building to an empty vestibule. After hoisting me up a winding staircase

to the next floor, they wheeled me down a narrow corridor to the far end. An attendant unlocked a door with a key from a chain of 50 or so on his belt and we entered a small room. The scant illumination shining through dirt-encrusted windows cast a nightmarish glow in which few things could be distinguished clearly. However I was able to see that it was totally devoid of furniture save for a long hardwood table. They placed the cot with me in it on the table. Then they pulled down all the shades and left me alone, locking the door behind them.

Had I not managed to free myself after several hours of fiddling with the ligatures and cords that bound me, this account would unavoidably have to end here- even earlier, for how could I have written it? [27] It must have been around 8 PM when I succeeded in untying the final restraint and alighted, very slowly so as not to make a sound, off the table and crouched down to the floor. Voices, some of them recognizable, were coming from a room on the floor below, including those of the two attendants' and van Clees himself. Others were familiar though I couldn't place them. By my rough estimate there were more than a dozen persons in the room.

Feeling my way silently along the walls I discovered about half a dozen doors around the room. Most of them opened up to closets, but one led to a staircase. It was my

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27**As there is clearly more coming , I invite the reader to exercise his imagination in reconstructing the way it was done.**

good luck that, mental hospital attendants and prison guards being no smarter than they should be, my guardians had neglected to lock this door. The staircase led down to another room on the ground floor. Little as I wished to go there it was my only option. Here the voices were more distinct. Soon it was possible to make out what they were saying. Van Clees was embroiled in a heated argument with the rest of the psychiatric staff:

" I vill not allow dot! Dot I vill not allow! Vee need hiz Bbrraainnn! "

A confused babble of heated voices mounting in wave after wave of unintelligibility roared its unanimous disagreement :

..... Take it off the scalp ... What's that...??! .... NO!!!! ... Why , if ... NEVER!! ....I say he should be .... **Outrageous !** Absolutely ... **Ha! Ha! Ha!!!** ...NO!!!! .... I can't see how ... That's ridiculous! ... (**If you're going there tonight I advise the filet mignon. Between you and me , don't order the vichyssoise**) ... Look man, fuck this shit, that's no answer! ... **NO!!NO!!** Why of course not!! Absolutely **NO!!** .... ***What is this, a kindergarten ?? I thought this was supposed to be a research institute !*** ... Twenty years? I remember reading somewhere that ..... (The small knife is better) ....What time is it? .... I warned everyone that the sleep bell wouldn't ... **What's that you say?** Anomalous? In my

opinion .... Tranquilizer chair ? ...Ethics? Our Lives Are At Stake!! ..... (It's the old story, divorce takes ages in this state)..... What? ... So what if he is smart, that doesn't ... A use for what? .... **I Wont Stand For It !!** ... I don't understand, but ... Look, if you start digging in from the other end ... **Well, what about a graft? I've done the operation before**.... You think? ... Injections? But that's not... .... ARE YOU CRAZY?? ... So, what's new about that? ***NO!! NO!! NO!!*** **Absolutely NOT!!** ....What he doesn't realize is that ... (It's been known to slip) .....

" Shad Oup! Evrybody Shad oup! Hootverdamt !! "

Van Clees shouted above the multitude, both his fists slamming on the table like iron mallets. The commotion died away .

" I say vee need zat bbrraainnn! En vee need it alltogedder. In von piece! De b-b-b-bb-rrainn ouf zat boy ist gold for ous! Von ken not buy a compyooter machine like dot for a million bucks! I vill not allow no one to cut outs noting vrom dot bbrraainn. I vill allow noting cut out!! Vot does vee risk against de bbrraainn of de boy! You tinks vee get million dollars vrom zee I.B.M.? "

They were caught in a deadlock; this alone had spared me up to that moment. After two hours of debate nothing had been resolved . One of the doctors was trying to negotiate a compromise solution. He suggested that I be

given the option of joining the research team in exchange for the preservation of my soul. Horrified cries of protest arose about the room:

" I say if we don't lobotomize him immediately he should be killed! "

" Hootverdamt! Dis ist my laboratory, an if...! "

All but unhinged by terror I stared frantically about the room. To my left was a door. Bold through desperation I pushed through it into an amphitheatre lit by glaring klieg lights.

The operating table stood near the center of the room towards the back wall . Wires and cables branched off from thirty sockets built around the borders of the table. Several were divided into pairs, one lead going to an instrument panel up against the wall, the other being inserted into some kind of manacle, chain or metal plate.

Turning to my left I recognized the form of a van de Graff electrostatic generator surrounded by lead shields. Brain probes with foot-long antennae , sharp edges and exquisitely gleaming points were hung up in rows on hooks about the walls. Around the table, heaped up like animal guts after slaughter, lay assortments of cruelly shaped knives, scissors, mallets, forceps ...

With an immense effort I tore my eyes away from these abominations and turned to the right. An injection of ice water directly into the heart could not have filled me more with horror:

#343...

The open space before the far wall was taken up from one end to the other with a treadmill. In it stood George the ex-divinity student, or what remained of him. He'd collapsed on the wet floor of this infernal engine, his body, (naked save for a ripped G-string) , immersed in a pool of blood, his hair grazing the laboratory floor, his mouth hanging open in imbecile terror, his tongue buried in drool. A wide, irregular wound was slashed across his forehead from the upper right line of the scalp to his left eye socket . Through the forebrow protruded a white patch of skull .

Staggering across the room to the treadmill I shook his body, timidly confirming what I already knew: George was dead. Then some glinting object up close to the ceiling caught my eye. I looked up to encounter: ...

... An outsized ceramic crucifix dangling over the treadmill . Embedded all over it, like jimmies on a scoop of cherry-vanilla ice-cream , shone many blinking Christmas tree lightbulbs ....

Like a programmed robot, George had run the treadmill without pause, grasping at this object, until released by death! Perhaps the refuse tissue created by his operation had poisoned his brain. Or his heart may have given out. Or his entire system collapsed.

George ! The gentle divinity student, who had never been heard to utter an unkind word, who had never, in his short span of life, done the least harm to another living creature, now destroyed in the service of a failed

experiment, offered up in this fashion for sacrifice to the Moloch of Behaviorism!

There could be no delay; I had to escape - and quickly! One of the psychiatrists had already gone upstairs to discover that I was missing.

I heard him running back down and opening the door of the conference room. Chaos broke out virtually on the instant. There was barely time for me to throw open a window and leap onto the grounds before van Clees stepped into the operating room. He fired a pistol; the bullet shattered the windowpane. I dropped to the ground, No matter that my body was weakened, bones brittle and muscles frail from a year's confinement: I took off as someone who flees a burning building .

It was touch and go hiding in the woods two days and nights while they searched for me. On the morning of the third day I escaped off the grounds and walked 6 miles to the Pennsylvania Turnpike. There I hitched a ride that took me out of the state. For a year I traveled back and forth across the country, having numerous adventures. By that time the limits of its authority over escaped mental patients was expired, making it illegal for Marigold Meadows to re-incarcerate me by force.

I returned to Philadelphia in the summer of 1953 in time to enroll for my junior year at Zelosophic U. . For once my parents were on my side, and the ordeal of Marigold Meadows was never referred to again by any of us.

#345...

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Chapter 15
Flashback to the Relative Present

Two years ago, in November of 1966, I began writing this memoir. Over the next 9 months I'd gone through 6 cities, a dozen residences and as many jobs. The initial outline was conceived in September, while staying in a barren room in the YMCA in Schenectady, NY. That a memoir such as this one would be written some day was inevitable, but when I began it I was simply bored, having nothing to do while waiting to be evicted because I had only enough rent money for two more nights and no prospects.

By mid-November however I'd made it to New York City , to begin a cycle of migration through homeless shelters and flophouses on the Lower East Side. As luck would have it ,I happened to be walking from the Public Library at 42nd Street and Fifth Avenue when I was caught in the rain. The nearest coffee shop was at the corner of 42nd and Sixth. Walking through the door I ran into one of my old high school flames whom I've never known as anyone but Jackie. As a matter of course we sat down together in a booth and started talking about old times.

Although she enjoyed being regaled by a host of colorful anecdotes I confessed that I had nothing to show for my life. Jackie felt quite the opposite about herself, that she was on an upward track. After 3 years working as an usherette in the Triple-X -rated movie houses on 42nd

Street, she'd acquired part ownership in several of the tattoo parlours on the strip of between 6th and 9th Avenues.

She'd never lost her affection for me, and I decided that the feeling was mutual, at least to the extent of accepting her offer to move into the guest room of her cozy apartment on the Upper West Side a few blocks north of 72nd Street. She'd seen to it that her living quarters were as far away from her place of business as possible while still being convenient in terms of public transportation.

Jackie really was a good friend. Besides giving me a place to stay she created a little part-time job for me which left me free time for thinking and writing . In exchange for room and board and $35 a week I walked up and down 42nd Street encumbered with a sandwich board advertising her chain of tattoo parlours. Once in awhile I delivered small packages to addresses around the Greater New York area. Almost certainly narcotics ; but I was old enough by this time to recognize that one doesn't look a gift whore in the mouth. Ah ... that's not fair. Jackie wasn't a 'whore', not in the perjorative sense. She was ... well, she was what she was . What she still is, as far as I know.

Then on December 21, 1967, shortly before Christmas I ran into somebody I'd encountered occasionally around the Zelosophic U.
Mathematics Department in 1953. His name was Melvin Twinck. He'd abandoned his doctoral program in math to go into computer programming while the field was still young.

In fact he'd begun working for Remington Rand at the time the first UNIVAC's were being invented just a stone's throw away, in the Moore School of Engineering at the University of Pennsylvania. Now he ran his own computer consulting agency in an office building on 55th Street and 8th Avenue. Databytes, Inc. employed a dozen analysts, 30 programmers and twice as many secretaries.

Melvin Twinck was a self-made man; so he described himself at every opportunity. Stiff as a ramrod though overweight, with close-cropped black hair, he was always impeccably dressed in suits that made him look as if he were permanently in mourning. His manner was intense, as if he had something very important to communicate; complementing this was his tendency not to listen to anything people were saying to him. "Business before pleasure" was his favorite cliché , yet in fact his principal interest was neither business nor pleasure but his own existential Angst.

Twinck was naturally astonished to see me walking around New York City as a sandwich board man: it confirmed his belief, he said, that America wasn't really a democracy. After we loaded the sandwich board in the trunk of his car he drove us to an Uptown restaurant on Lexington Avenue, a stuffy place with undeniable class, clearly meant to impress me. I didn't know at first if he was just getting pleasure out of rubbing salt in my wounds, or actually intended to offer me something.

He did. Around 2:30 we left the restaurant and ditched the sandwich board in a side alley in back of Grand Central Station. Then we drove up 8th Avenue to his agency. The suites of Databytes, Inc. were spread over the 3 top floors of a sleek 50 story glass and concrete tubular shaft surrounded by Nothingness, a void that could have served to refute Descartes. Mel's benevolence was concurrently studied and authentic. Once comfortably seated in his private office he passed me a cigar. Then he outlined the kind of job he was proposing. Like a Shakespearean messenger of bad news, Twinck apologized repeatedly for being unable to start me on a base salary higher than $500 a week, that is to say, ten times what the sandwich board had been bringing me. But that was company policy, and even he couldn't go against the rules, even for an old friend. No job is perfect - I would have to forgo the great outdoors and encounters with fascinating people.

As he explained to me why I shouldn't be discouraged, he lowered his voice sotto voce , looking furtively to the door, fearful that an employee might be overhearing us . He promised to place me on a promotion track within a few weeks. By spring I ought to be earning $50,000 a year, which is what he really thought I deserved. That was okay by me.

" I' ve never taken to the computer", I began, " but I'm sure that - " Twink stopped me in mid-phrase with a wave of the hand:

" Let me show you around." A cynical chuckle: " I'm giving you the grand tour. " Mel got up, patted me on the shoulder as we stepped together out of his office into the long corridor. Rows of fluorescent tubes shedding an intense and flaky light drifted in military formation down its length. We turned to the right and walked down the corridor. In the first cubicle to the left 3 senior programmers sat huddled over a game of chess. In the one after that we spotted some secretaries and mathematicians playing bridge during what seemed an interminable coffee break. Finally we arrived at a compartment somewhat larger than the others. The name 'Amos Mickey' stood strong and proud on a plaque above the doorknob.

"Don't bother to knock" , Twinck whispered, " Just open the door a crack. " My attempt to follow his instructions was blocked when the door hit an obstruction in the form of a pair of knees, themselves the summits of two hunched-up legs draped by dark tan tailor-made trousers. Placed obliquely on the floor directly beneath, lay the soles of their black leather shoes. It was not unreasonable to predict that one should find the rest of a body of some sort behind these knees and thighs , sprawled face-upwards on the floor.

Peering over the knees confirmed what had been derived through deduction. A pair of eyes embellished with heavy spectacles in a boyish face squinted upwards to a pair of hands which, with a screwdriver and a pair of pliers, were adjusting the circuitry under a broad table. Although a

desk could be seen standing in one corner, this table occupied most of the quality space. Suddenly I discerned the goal of all this activity. The table was completely covered by an elaborate system of train tracks, long flowing unicursal curves intersecting in elaborate trefoils, multiple track relays and switching circuits, blinking signal lights, bridges, roads and tunnels, plastic grass and cows, even a system of small village stations between two grand city terminals. Trains whizzed by in all directions in obedience to computerized schedules , the complete gizmo operating under the management of a magnetic tape spinning between two spools on a home made GENIAC computer high up on a shelf on the wall.

Amos Mickey looked up just long enough to show me that he knew I was there. Seeing the director of Databytes Inc. standing beside me he waved, without any interruption of his handiwork. I closed the door and followed Twinck into the corridor.

" He's a toy train nut". he explained. Then he led me back into his office. " It's this way, Aleph", he began as we were both seated: "Computer programming is the last thing we do. You might describe it as the penultimate stage of operations at Databytes, Inc. Once in awhile we design some real software or run programs for our clients, and there may be days, no more than a few out of the year, when you find yourself working around the clock. It still

leaves us time for the most creative, which , coincidentally, is also the most lucrative aspect of this business.

"Some people might get the impression that we sit around doing nothing at all. That would be a grave misconception. What we do mainly is THINK!" One could imagine him a publicist for IBM.

"What do you think about?"

"Government contracts."

I nodded, hastily and perhaps a bit too eagerly: " I understand. You're thinking about how to solve the problems stipulated in your government contracts."

" I don't mean that at all." He looked annoyed; it made me apprehensive. Something in his expression suggested to me that he was wondering if I were really intelligent enough to work for him:

" I mean that we think of ways of getting government contracts! You see, Aleph, the government has a lot of money to throw around on military preparedness. A staggering amount of money ! " he gasped , " a truly staggering amount of money ! We'd mainly concerned with seeing that it goes to us and not to someone else. Our principal asset is IMAGINATION ! " For some reason the word gave him the feeling that he ought to bang his fist on the table, and he did:

" The hardest work we do here is to convince the Air Force that some brainchild of ours, which will permit us to comfortably vegetate for a few years, is absolutely vital for

national defense. Once in awhile the problems we think about really are interesting. When that happens you'll find us working really hard. Then everybody's happy." Twinck opened a drawer in his desk and pulled out a thick sheaf of documents.

" Look these over in your spare time." As he reminisced he swiveled around and around in his armchair like a happy schoolboy:

" I started up in this racket with this project. It was suggested to me by some Air Force bureaucrat. Nowadays it's called ..... let me see ... right .... Problem-Solving Under Nuclear Attack : Pisnah for short. Aleph, psychologists have done some wonderful research on problem-solving aptitudes. We've combed the literature in this field over the last 20 years and discovered that no-one's bothered to ask himself about the strange things that could happen to problem-solving aptitudes under the stress of a nuclear bombardment!

" Let me put it to you this way, Aleph: could you still continue to do your mathematics if you suddenly saw the outlines of a mushroom cloud rising in your living-room window? "

I reflected that for the past month the view from my living-room window had been restricted to a brick wall and a dank strip of pavement. Granted that this had little relevance to his hypothetical situation:

" Good question, isn't it? Well ..maybe yes; maybe no.. Nobody knows. Until this very day ", he chuckled, " Still nobody knows! I call that an MRC : Maximally Remunerative Concept " Twinck emphasized each syllable of the golden phrase by a jab of his left index finger in the air ,

" An MRC gives a maximal return for labor invested. The hardest work anyone's ever done on Pisnah has been in writing up the grant proposals that sell it to the Pentagon. Hell, man!: It's supported 6 families for a decade!

"Aleph, one of these days an A-bomb, even an H-bomb, is going to be dropped over New York City. It's not a hunch, it's a conclusion as certain as the sun coming up tomorrow morning. Personally, I don't think the Russians are going to do it. I anticipate a Civil War right here in this country." Twinck let out a sigh, or maybe a belch,

" You've got to look on the good side, Aleph: any kind of war means lots of data for Pisnah ! In fact, until there's a full-scale nuclear war on this planet, Pisnah will continue to be largely guesswork. You know, Aleph", he was becoming chummy again, perhaps too chummy,

" I'd put you on the Pisnah payroll right now, except that I think you're capable of better things. I think that sharp mathematical mind of yours holds a dozen MRC 's , ideas that will make Pisnah look like a real pisser!" He followed this up with his first honest-to-goodness guffaw. Then he opened his desk drawer and conjured up a checkbook:

" Here's an advance on your first week's salary: $300 . You can pay me back whenever you like, lets say starting a month from now. Actually I don't care if you take a year to pay up. By that time you ought to be making some real income. You can get this check cashed around the corner. Get yourself a decent place to live and a passable suit, and come back on Monday. In the meantime study these documents. Read them over carefully, several times if necessary : there's lots of wisdom in them. Keep in mind whom they've been written for and what they're really saying. "

Game theory, I thought: it's all game theory. I had nothing against the new job, if one could call it that , and I certainly needed the money. Melvin Twinck already filled me with loathing , but even under capitalism you're not required to love your boss.

Before leaving he took me to the Mail Room and gave me a demonstration his latest acquisition, a photocopy machine of which he was inordinately proud. He invited me to copy something ; I opened my wallet and took out one of Jackie's dollar bills. " Don't do that!", Twinck cried, a wild look in his eye , " Counterfeiting can get you 20 years !" We settled on an unclassified page from Pisnah .

It was slightly after 4 when I left the premises of Databytes, Inc. The check cashing storefront was still open. I didn't need to eat anything more after Twinck's lavish luncheon, so I found a room in a hotel above 83rd Street

and Amsterdam Avenue. By 8:30 I was already in bed, sleeping the sleep of the self-righteous-don't-give-a-damn's for the next 24 hours. It didn't seem necessary to inform Jackie of my new situation in life. She knew how to take care of oneself much better than I did.

The job at Databytes, Inc. lasted 6 months. I wasn't fired; I had to quit. It was a question of psychic survival. Every day of my tenure there I'd felt my sanity slipping away from me just a little a bit more. Mel gave me the title of "Senior Mathematical Consultant" . Having little to do I spent the better part of my days writing up this memoir. In my spare time I read through the Pisnah documents . Sometimes I pasted up news items in my Vietnamese War scrapbook.

Pisnah was fun. Every document after the introductory section was classified as either CONFIDENTIAL or TOP SECRET. Yet since they contained no conclusions or concrete suggestions we talked about them as much as we liked. The only part of Pisnah that anyone had done any work on was a bibliography on tape and printouts, summarizing all the research in mathematics that had come out of Hiroshima and Nagasaki since the war. Software providing statistical analyses for identifying Bomb Induced Theorems , or Bomb Suppressed Theorems were also being developed, though none of them had gone beyond the planning stages. It was part-and-parcel with the received wisdom at Databytes Inc. that real progress in

Pisnah could not be made until an efficient Japanese-English translation program had been perfected.

No-one ever asked me what I was doing, nor was I under any pressure to produce results. Despite this one left the premises of Databytes, Inc. at the end of each day with the sense of emerging from an ordeal. This reasons for this were entirely a matter of the constant strain of coping with social relations. We might as well start with Amos Mickey.

Amos Mickey was in his early 30's, short and shapeless. Owing to the amount of nervous energy he exuded, he was not dumpy. He always wore suits a few sizes too large for him. Horn-rimmed glasses exaggerated his already large eyes. His smile, when not fixed, was distinctly manic. His air of fatuous enthusiasm was, unfortunately, all to sincere. He was scruffy and unkempt as well, though that describes all of us - saving only Mel Twinck, who kept himself groomed for business luncheons and interviews with clients.

I can't imagine that there's any exception to the rule that persons afflicted with monomania are always psychosis-inducing bores. Amos Mickey was not content to be holed up in his cubicle with his toy trains; he had a ravening need to bore as many people as he could with them. He had the advantage over the rest of us that we spent most of the day sitting around doing nothing. One afternoon we heard an explosion coming from his office. The noise stirred Databytes, Inc. out of its collective coma. A dozen of us rushed to his cubicle and threw open the door.

There we found Mickey, stretched out face upwards on his floor beneath many yards of train tracks, wires and piles of rubbish. Putting it mildly he was delirious with happiness. Four of us put our arms around him and extracted him from the wreckage. Apart from some temporary confusion, he was uninjured. Somebody went to the kitchen to boil up a cup of coffee. While he sat drinking it he explained to us that we'd just been witnesses to the successful simulation of a commando operation in some hypothetical future war. He just knew that the Office of Naval Research could be persuaded to cough up another 25 grand for his efforts in protecting us from the Communist menace.

Sitting alone at my desk, doubled up in agony over the pages of this memoir, I labored to relive the extraordinary psychic suffering of my 7th year, or attempted to recapture that lost capacity for visualization of 4-dimensional reality; or, burrowing back into my store of memories engaged in the vain effort to retrieve the missing digits of the serial number on the incubator

.... when Amos Mickey, without prior notice or declaration of war, would invade my compartment, bubbling over with joy and impatience to show me the spring catalogue he'd just received from Lionel Trains. As he riffled the pages he proudly displayed all of its new gadgets. I had no choice but to listen. The only way to get rid of him was to pretend I shared

his interests, hoping that he would be soon be seized by the urge to find another victim and go away. IF I recall correctly, I once saw an ad for a miniaturized commuter cocktail lounge cocktail shaker.

One could not doubt that Santa Claus had never come down the chimney when Amos Mickey was a boy. One afternoon he took up two hours of my time - it may only have been an hour but it felt like much more - describing an ingenious program he'd manufactured. It allowed him to go outdoors and make a telephone call to a central switchboard into which he could dial up instructions to reschedule his trains to a new timetable. His jargon, swaddled in bales of information theory, communication theory, electrical engineering and computerese poured unchecked from his perfervid brain, clinging to all items in the room like the emulsification of quick-drying glue. A morning with Amos Mickey drained one more than a day's honest work, albeit there being no local standard for making the comparison.

Then there was Bob Smatters. He was a bulky, lumbering sort, a kind of perpetual schoolboy looking for some sort of purpose to relieve his futile woes . Although he wore very expensive shoes, their laces were always untied; he would have done better to wear sneakers. I don't remember him not wearing a green sweater, always the same. His smile was self-deprecating, something like a simper, but it wasn't friendly. Like the rest of us Smatters

was bored. He was also a bore, the lethal combination. He might spend as much as half an hour moseying around in the corridors until he ended up in somebody's office. My turn came around with a fatal regularity. Once inside he would pull up a chair, hunch his large frame with his hands folded in his lap, and groan.

For awhile that's all he did : little soft groans delivered with a timid air, as if apologizing for being in such misery. Between his sighs and groans he interspersed little tidbits of pointless information. A few innocuous remarks about Mozart's genius; then a groan. Some of the duller results of Homological Algebra, which he was studying at Columbia University at the time; another groan. Twenty minutes would pass in which he could be depended upon to throw out half a dozen trite and uninformed political opinions. For some reason he seemed to think that somewhat callous tone indicated the presence of shrewdness. Occasionally a deep sigh. This could go on until the morning coffee break; or the lunch break; or the afternoon coffee break; or closing time; or even after that . I've never met another person with so deeply rooted a spiritual malaise, yet with so little apparent reason for suffering from one.

Smatters was one of the Databytes old-timers, yet even about the company he never had anything remarkable to say. He might go on tediously about marriages, petty thefts, odd personalities, past feuds and squabbles, without arousing the slightest curiosity in his auditor. He and Mickey

were two of a kind, and it should come as no surprise to relate that they made wide circles about one another. They were just a pair of cannibals looking for people to eat . Now that I'm out of harm's way I can feel sorry for them. I really do believe that enforced idleness brings out the very worst in all human beings. That and self-pity.

By February I'd found myself an apartment in Hoboken. It took up the second floor of a rotting frame building and was situated above a saloon on a shabby street filled with bars for riff-raff and seafarers . It was only a few blocks away from the Stevens Institute of Technology;
when fed up with the noise and the drunken brawls coming up from below, I hopped over to Stevens for a bit of shop talk with the engineers. I was pleased with my new circumstances . They provided me with vicarious life experience without no sacrifice to my interests. There was a real danger at this stage in my life that I might become an alcoholic. It is fortunate that I don't seem to suffer from any genetic predisposition in that direction, because I quickly got into the habit of staying up until 4 o'clock in the morning drinking and socializing in the saloons. It became part of my regular routine to lie around in bed until noon or after .

None of the senior research analysts ever put in an appearance at the Database offices before 2 in the afternoon. I expected any day that I was going to be fired. The discovery that nothing I did made any difference increased my disrespect for the job. Only the secretaries

were obliged to put regular hours, from 9 to 5, although they might end up spending most of the day in card games and gossip. Bob Smatters tended to wander into my office around 3, but he could usually be warded off for an hour or so by pointing out that, having just arrived, there was an enormous backlog of work I had to deal with that couldn't be neglected. To be fair although the official closing time of Databytes, Inc. was 5 PM , the "creative staff", mathematicians, experienced programmers, operations research and game theory specialists worked at odd hours and its offices were always open. A nagging sense of guilt led me to stay on until 9 or even 11 at night, even when I had nothing to do. This meant frequent contact with Twinck who might show up around 8 PM and work through the night.

Melvin Twinck was a lonely man, one whose remarkable worldly success had been poisoned by a ubiquitous and unfocused guilty conscience. Perhaps because of this he always seemed to be in need of someone to listen to him talking to himself. If I was in my office when he showed up he sent me out to the local diner for coffee and donuts for the two of us. This little chore became an important ritual; it was one of the few things I did that gave me the feeling of earning my keep.

Work (even if there wasn't any) was now out of the question. On my return Mel would tell me to put away whatever I was doing ("It'll keep- another millennium or so!" , followed by a chuckle) , and go with him to his office on the

3rd floor. In an ordeal that could last as much as 2 hours, Twinck unloaded his cartloads of dire pronouncements, (backed up by reams of facts, figures and insider dope from the corridors of power) , of impending doom.

" Aleph! Aleph! Aleph McNaughton Cantor! " Twinck bellowed, holding his head as if wringing the last drop out of a sponge, "We're all going to be killed! " The sweat poured over the prominent veins pulsing in his denuded temples; all 30 of his overweight pounds trembled with fear. Sometimes he would grip a stack of pencils lying about on his desk and go through the motions of breaking them. Once in awhile he did break them:

" We're-all-going- to-be-killed! Do you have any inkling, Aleph - do you know anything at all about that pack of maniacs running the country ? Lyndon Baines Johnson! McNamara! Dean Rusk ! Curtis Lemay! Mendel Rivers! God forbid, Aleph: there're not the worst! I happen to know who are the most dangerous people in the world. Who do you think they are?"

Twick hovered over me, fists clenched, his stale unwholesome breath congealing like Jello over my cheeks. He returned to his chair and sat down before shouting:

" The most dangerous conspiracy in today's world is the hierarchy of the Catholic Church ! .... Fathomless greed! ...Fathomless .. Cynical! Cunning !! Indifferent to the sufferings of millions - of billions! I doubt Aleph, that even your ingenious mathematical mind could begin to grasp the

network of conspiracies intertwining them like the tentacles of an octopus with power-mad dictators, all the plutocrats, the crazed organizations, the fanatics, all the ... " Twinck permitted himself a brief pause before he roared:

" They're going to overpopulate us out of existence ! Aleph! Aleph! The fucking Kennedys ! Cardinal Spellman ! Madame Nhu ! Pope Paul ! " His voice was shaking,

" Keep your eye on that man ! Pope Paul! Behind that mild mannered humbug, that meek, cringing facade there crouches the soul of a Satan crueller, more tyrannical , more glutted by wickedness than Hitler and Stalin combined! Overpopulation !" That's their principal weapon. First overpopulate the world then starve it into submission. That's their grand plan. They don't have sex . They don't marry. They don't have children. But they order their flocks to use no contraceptives, tell them they'll all go to hell if they have an abortion, and to have lots of children !!

" When the bill comes in, when that flood of unfeedable mouths engulfs the planet, you'll find them sitting on their piles of hoarded food, high and dry ! Mass murder: that's what it is. Simply the most stupendous, the most ingenious, the most hideous genocide ever imagined !! "

Now I thought I understood why Bob Smatters groaned so much; I found myself doing the same thing. Alas, Mel wasn't finished:

" Then, my God! There's the Media! Madison Avenue ! And Show Business! Hell, man : LBJ is small fry! Peanuts!

I'm not afraid of Johnson." Twinck beamed a rare radiant smile, proud to exhibit his courage in taking on Lyndon Johnson. Then something set him off again. He scowled:

" The day you see Samuel Goldwyn, or David Sarnoff, or Arthur Ochs Sulzberger walking into the headquarters of Databytes, Inc. , you know where you'll find me: crouching behind the door of my office with a shotgun, poised to kill! Manipulators of public consciousness! Violators of the public trust! Driving the lemming hordes over the cliffs, dragging the rest of us with them!! Just imagine it, Aleph! Trampled to death by millions of brain-dead zombies !! "

His breast was heaving. For all his panting he might have been experiencing an orgasm. Yet still he hadn't finished:

" Then there's pollution! Christ, Aleph: pollution! " He lowered his head and wept hysterically, his pollution-saturated tears contaminating the surface of his desk, saturating his letter opener, the pictures of his wife, daughter and dog, the rock from the ruins of Hiroshima he used as a paper weight, his leather-bound copy of The Biological Time Bomb , his all-powerful checkbook, and a month-old copy of the Jehovah's Witness newspaper The Lighthouse that he'd taken from a little old lady who hung out at the corner of 6th Avenue and 57th Street. As he moaned, shudders ran through his heavy tub:

" Aleph! What're we going to do? What about our grandchildren? What kinds of spirochetes did I put into little

Joanie when I made her? Making money, making money ..... " Hysterically he began ripping up his ink blotter with his letter-opener:

" Making money's the only thing left to do in this fucking world !!"

More shameless bawling. I could no longer bear to look at him. Twinck appeared to not mind, not that he even noticed when I swiveled my chair about and stared at the wall. I was depressed, too, God damn it! Unfortunately the cause of my depressions was at close range. Perhaps I could at least occupy my mind and might stop my yawning by studying the texture of the bare cinderblock walls . It was, in fact, not unrelated to whatever I was supposed to be doing for Databytes: If a wall can look like that in its unfinished state, what might it look like after being hit by an A-bomb? For that matter what would the Parthenon, or St. Peter's or the Pyramids look like if A-bombs were dropped on them? Can we look forward to the day when cinderblock will be supplanted by a new form of matter called "incinerator block" ? Why not speculate that Melvin Twinck might interest a foundation in buying up all the bones still lying about in the pits of Auschwitz and use them to building a war museum. A grisly thought...still, for someone like Twinck ... What would that look like after an A-bomb hit it?

And let's allow for the possibility that the nefarious scheme of the Catholic Church to overpopulate the world

could backfire and we all started eating one another! A ray of hope in the universal darkness ! Melvin might also contemplate the hypothesis that overpopulation and pollution could eventually cancel one another out. Large-scale immigration from India and China may become necessary to counterbalance the depletion of the populations of the Western industrial countries by carbon dioxide emissions, carbon monoxide emissions, chlorine, nitrous oxide, strontium-90, uranium tailings, radon gas, lead and asbestos . On the other hand ... a new religion may take root and inspire 100,000,000 souls to take a vow of chastity ! ..... Apparently the polar ice-caps are melting. I wondered if Melvin had read John Wyndham's novel, " The Kraken Wakes ?" If he had he knew that millions of intelligent marine creatures from Jupiter who are happiest living 5 miles below the surface of the ocean, had been arriving from outer space and threatened the future of the human race. Provided they existed ... And don't forget the pea-pods, and the body snatchers ... New York City! Now there's a scourge to outmatch the plagues rained upon the Pharoahs ! What's a manic-depressive like Melvin Twinck doing running a business in the most dangerous city in the world? What's keeping the Empire State Building from collapsing? The Hudson River from flooding the subways ? The CIA from dropping LSD into the coffee at Horn and Hardart's ? Drug pushers from hooking little Joanie? Even a sane human would think twice about living in New York ....

"WELL?!! " It was Twinck again. There was a grating edge to his voice. I turned back to face him. He was glaring at me with the unfocused rage of a drunk recalling an unpleasant childhood memory. His lips were curled in a snarl while his fists were clenched in a way that indicated he might just clobber me if I said the wrong thing:

"Well? Say something!"

" Who don't you move to New Zealand?"

" WHAT !! Aleph, have you gone mad? What have they got over there that we haven't got here? "

" That's the whole point; they've got nothing. Nothing ever happens in New Zealand. No overpopulation, no pollution. No culture, decadent or otherwise. After World War III it may be the only habitable place on earth." Twinck shook his head, the way one does with a complete idiot one decides to humor. He got up and walked about the room, grimacing if as he had a toothache and scratching behind his ears. His hands appeared to be making calculations in the air. Several minutes passed, and it appeared he'd made up his mind. He returned to his desk and began playing compulsively with the letter opener and paper clips:

" No. No good, Aleph. That's where they've got Zulus, or Hottentots. All those Polynesians are headhunters. Eat you alive if you're a white man."

"Maoris!" I said with some exasperation. " And they're civilized! They won't touch a hair of your head."

"Civilized ! Then they must all be Communists by now. Aleph, do you seriously want to send me to a place that's going to be another Vietnam in 10 years? "

I shut up after that , that is, as long as I continued working for him. It was usually between 10 and 11 PM when I finally succeeded in tearing myself out of Twinck's grasp. Then it was a matter of subways and trains to get back to Hoboken, there to drink myself blind in with Tom and Pee-Wee and Boots, and Mugsy the bartender, and a cute hooker named Angel, and Mike - never forget Mike ... until the merciful coma settled in between 4 and 6 in the morning.

If I happened to be in my office when Twinck showed up at Databytes, Inc. it was a foregone conclusion that I had to satisfy his insatiable craving for victims. However by April of 1966 I'd understood that neither he nor anybody else expected me to show up for work in the first place. None of them bothered to come in if they didn't feel like it. The most that was expected of us was to put in an appearance once every ten days or so with some kind of report, genuine or concocted, about our work in progress. That done, I fled: either to the Lincoln Center Library for the Performing Arts, or a neighborhood movie house, or a concert or lecture, perhaps a visit to colleagues at Columbia or NYU. I saw dozens of films, read lots of plays and listened to lots of music. This rapid and concentrated acculturation may or may not be apparent in my writing. For those who are

interested, it was in this period that Chapters 9 through 12 were sketched.

The dive on the floor below mine in Hoboken was called The Old Pirate. It was there, in the beginning of April that I met Joe O'Hanlon. Joe was a retired ship's cook. When I met him he was eking out a precarious living from a dilapidated and not terribly scrupulous antique shop. When he wasn't tending the shop he was driving around the Hudson Valley picking up junk which, with a little paint and remedial carpentry, could be sold at ridiculous prices to yuppies as vintage antiques. It didn't make him rich; all of his spare cash went to finance The Old Pirate, where he hung out from early evening until late in the night.

Joe was as bright as I am, perhaps brighter. His education hadn't gone past the 6th grade. He'd circled the globe dozens of times, married then abandoned, or been abandoned by, 6 wives, and could get around in 4 languages in addition to his own brand of English. Joe had seen a incredible amount, in consequence of which he tended to assume that he always knew what was really worth knowing. Sometimes he was right. He was a non-stop talker but his stories were never dull. And though much of what he said didn't appear to make sense, it always sounded interesting and somehow apropos.

When he noticed me for the first time I was sitting alone at the bar. I must have appeared even more harassed and bedraggled than was normal for me . Joe got

up from his table came over and sat down next to me. He put his arm around my shoulders and stared into my face. There was no mistaking the concern written on his features:

"Boy", he said, "You've got problems."

I lowered my face : "You're right. How can you tell?"

" Its all in your eyes." We walked over to his table. "Two doubles!" Mugsy, a slow-moving ex-Marine with half an ear and a mutilated mouth, put away his girlie magazine. Muttering something that sounded vaguely like " Skunks and boozers", he made up our drinks.

"Aleph", Joe began, " I've been around a lot. I've seen all kinds. I've seen your kind, too. Education don't frighten me. Pack of slimy bastards in them universities of yours. You can take the whole bleedin' lot of'em and stuff'em up yer arsehole!"

After such an introduction I happily allowed him to continue, for hours if he wished. He told me stories about classics scholars who'd gone to sea; about pallid and anemic bookworms whose every other word was 'this-ology' and 'that-ology' , who after a year behind the mast could swear, drink and fight better than any three sea-dogs in existence. He described a pitiful runt who'd earned the name of "Terror of the High Seas" after a decade in Melanesia. He spoke of the men who'd shipped out to escape women, and of the others who'd done the same to find them. Like someone reciting an axiom in geometry, he asserted that one just wasn't a man until he'd shipped out. Strangely, the gist of his

narrative also suggested that the race of sailors was a vermin not worth the effort to crush underfoot. Immersed in this wealth of lurid and fascinating narratives I watched him, as one sights the arrival of an old friend visible from far away , work up towards the announcement of his basic thesis:

" Aleph, there's no hope for it. You've gotta ship out."

" Joe, I've just turned thirty. I'm a hopeless case, a washup."

" You washups is the best kind."

" I've never done any manual labor. The schools and doctors have made a mess of my brain. I let them do it, which shows that I'm just as bad as they are."

" Salt air, Aleph! That's the best psychiatry in the whole god-damned world. Now you take them psychiatrists: you can stuff the bloody lot of'em up my friggin' arse-hole!"

I dimly recall a fight that started around 2 in the morning, then a vague impression of my being hauled up the stairs and dumped into my bed. Awakening at noon came accompanied by a raging headache and aches in all my joints. Apart from a sausage-shaped welt on my forehead there were no other injuries. I threw myself into a cold shower, went into town for lunch, and made it to the suites of Databytes, Inc. by 4.

A secretary popped her head into my office to let me know they were expecting me in the upstairs Planning Room. Walking through the corridors to the elevator that would

take me up to the next floor I was stunned to discover this habitual oasis of sloth transformed into a bustling beehive of activity. Entering the Planning Room I found Melvin Twinck in conference with a team of analysts and programmers. The instant he saw me he dropped everything and hurried over to me, swearing a blue streak.

" Ah! At last! Here's the lousy bastard ! When in fucken hell have you been?" Not waiting for a reply he grabbed me by the arm and dragged me away from the others into a private booth at the back of the room.

" Where the blazes have you been, Cantor? What the fuck do you think we pay you for around here?"

"Speaking truthfully, I .."

" Shut up! I'll tell you what we pay you for! Have you any idea of what's due to happen here in a week or so ? Do you know who's coming to see us? "

I could not resist a smart-ass remark about the sales representative for Lionel Trains. Twinck sat down in a huff:

" I ought to can you for that crack, Aleph! I ought to send you back to the sewer I dragged you out of. " His eyes leveled with mine as he steadied his voice to an even tone of menace:

"Robert S. McNamara , that's who ! The Secretary of Defense , that's who ! Twinck screamed :"And we haven't got a damn thing to show him ! We've got contracts with the Department of Defense lying around that are overdue 6 months! Hell! Half my staff is out on permanent vacation,

with the other half jerking-off on company time! Oh-that's right - you haven't heard, you haven't heard ... It's like a Greek tragedy around here."

"Why? Can anything be worse?" - I found myself counting off on my fingers some of the things that could be worse than having to confront McNamara, - " Oh. no, nothing serious; I didn't want you to get upset . It's last week's news - stale stuff . But of course you weren't here. Don't feel guilty; nobody else was either. OK , whizz-kid : when we got the news about McNamara's impending visit I cleaned out all the crap on Amos Mickey's table and drove it to the city dump." Unaware that he was doing so , Twinck had started screaming again:

" When Amos came into his office and saw that his toy trains were gone , he drove his car to the George Washington Bridge and jumped into the Hudson River. Mickey committed suicide ! "

I laughed. Twinck glared at me with hatred.

" I'm warning you, Cantor.", Twinck was dangerously close to jabbing his index finger in my eyes, " When I walk out this door I'm locking you in this room. You're not getting out until you produce some kind of report! Not just anything! It's got to be convincing! It's got to be worth half a million dollars of our taxpayers' hard-earned money ! It's got to be worth the ransom of the Incas !

" McNamara man- Robert S. McNamara ! Mr. Vietnam! Architect of the inferno consuming America's finest young

men by the thousands! The man who, with a snap of his fingers, can invent 10,000 dead Vietnamese for his body counts ! Then go out and get drunk afterwards, for all he cares. He might be nuts, and the lousiest statistician of all times - but he's not stupid ! Get that into your head, boychick. From now on, Aleph, it's sink or swim."

Together we went back to my office. As he closed the door and turned the key I was informed that 'Meals would be served every four hours.' My right foot collided with an unfamiliar object under my desk; I cried out in pain. Looking down to the floor my eyes encountered the outlines of a chamber pot.

Drafting the report took three entire days and most of the next afternoon. Typed single-space it comes to 50 pages. There are about a hundred equations , 10 graphs and 6 diagrams. The investment of Databytes, Inc. weighed in at 3 sci-fi magazines, 8 full meals, 5 sandwiches, 18 cups of coffee and two packs of cigarettes. Considering the amount of money at stake I came cheap. I quit in disgust because my report saved the company . Its contents can be more than adequately extrapolated from a few paragraphs chosen at random. Reproducing the whole thing would waste your time and mine.

All persons intending to read the next few pages are forewarned that this report is still classified Top Secret in the Pentagon archives. Anyone caught buying this book, or reading this section, or selling

this book, or even publishing it, may be subject to prosecution under laws which carry penalties of up to 5 years in jail and/or $18,000 fine.

Project PSNA : Problem-Solving Under Nuclear Attack

I. Sub-Project PSBNA: Problem-Solving Between Nuclear Attacks

Mankind has always known war. There will always be wars. Wars are inevitable. Peace is only an interlude between two wars, even as space is just the name for a void between solid objects.

Nuclear war is but one of numerous modern alternatives in any inevitable war. An indirect argument shows that the existence of peace implies the absence of nuclear attack.

Problem solving goes on at all times, in peace or war. It is important however to note that problem solving in war is *not* coextensive with problem solving under nuclear attack, although they clearly share many of the same parameters. The study of problem-solving aptitudes, abilities and capacities has three parts :

(1) Problem solving in war not under nuclear attack;

(2) Problem solving in war under nuclear attack, and:

(3) Problem solving in peacetime.

PSNA is concerned with the second of these ; PSBNA with the other two. Note that there is no active discipline known as "Problem solving in peace but under nuclear attack". Properly speaking it doesn't exist, which is why it has not been included in the above list. This fundamental asymmetry is vital to all of the conclusions of this report.

PART I:
Problem Solving in War
though not under Nuclear Attack

It is in the nature of modern warfare that nuclear attack from or onto belligerents, originating in these belligerents or from powerful countries friendly to one or another of these belligerents, must always be considered a possibility. It is a safe assumption that the fear of a nuclear attack is always floating around somewhere in the mind of anyone solving or attempting to solve problems, simple or complex, in the context of every war since 1945.

Many problems which might otherwise be solved, have not been solved because of the potential threat of a nuclear attack. On the other hand one can make the argument that many problems which would not otherwise have be considered, have received consideration precisely because of the threat of a potential nuclear attack.

The following example has been designed to impress the reader with its cogency: *this report* . It is unthinkable that anyone would pay me to write something like this, now or in the near future, if there did not exist the real possibility of a

nuclear attack. Let the record show however that I am not now under any perceived threat of a nuclear attack. This report is therefore a good example of the limitations to problem solving in war but not under nuclear attack for, at the present moment, April 3, 1966, we are at war. [28]

To give an example of how problem-solving during a modern war differs from the classical situation I evoke the account in *Plutarch's Lives* , of the death of Archimedes. Plutarch wrote that the greatest mathematician of Antiquity, with the sword of a Roman centurion dangling above his neck, continued to meditate in complete tranquillity over the properties of the geometric forms he'd drawn in the sand . It is highly unlikely that even the great Archimedes maintain this high level of concentration with an A-bomb dangling over his head. *Classical equanimity does not accord well with the exigencies of the modern world.* Also we do not scratch triangles in sandboxes anymore.[29] **Nowadays one would be more inclined to display a functional arc on the monitor of an oscilloscope. In a modern war there is the ever-present danger of an electrical power blackout. Oscilloscopes cannot function without electricity. This is an apt example of the issues pertaining to problem-solving in a modern war ....**

28**The above remarks apply equally well to articles such as this one written in times of peace.**

29**Although I once knew a mathematician who took an Etch-A-Sketch toy with him into the bathroom of the Zelosophic Mathematics Department.**

Attempting to solve any kind of problem during a modern war can be compared to putting up a lightning rod during a thunderstorm. In a sense, once the storm has begun it is already too late to be thinking about putting up the lightning-rod. Without the lightning rod however you're left defenseless. You can't pretend you're not afraid of being struck by lightning while you're screwing in the lightning rod, because if that were the case you wouldn't be bothering with the lightning rod at all. If you let yourself be dominated by your fear you will slip off the roof. There is no way of knowing whether or not you will or will not be struck by lightning, and in all your efforts to defend yourself you merely increase the danger. This example splendidly illustrates the salient features of my basic thesis.

Part II:
Problem Solving in Peacetime

Since peace is a random fluctuation around the prevailing trend, that is to say war, it merits little more than a passing glance. It is important to note however that, just like the comparable situation of problem-solving in time of war, there are considerable differences between the modern and the classical situation. The clarification of such issues, and sundry matters related to them is the purpose of PSBNA Part II.

Let x be a variable quantifying, (from - ∞ to +∞) , a range of options from Total Peace to Total War. In fact both extremes meet in a

total cessation of activity. This is not our present concern.

Define D(x) as the "measure of distraction" , a quantitative measure of the obstruction of problem-solving aptitudes at differing values of x .

Roughly speaking, the graph of y =D(x) looks like this:

The behavior of D(x) as x goes to Total Peace or minus infinity, is the central concern of PSBNA Part II. Peace complicates normal life in many ways: leisure, boredom, idleness, adultery, jealousy, discontent, homicide, a rising crime rate, etc. As a compensating factor, more time is available for dealing with them. The 20th Century has seen a sharp upswing in research and development of effective technologies for the wasting of time. One can be fairly certain that the inauguration of the Age of Automation will generate many more.

To those who claim that war is obsolete I would remind them that on the contrary, war is just beginning, that eternal vigilance may or may not be the price of freedom, but that eternal vigilance always costs a hell of a lot.

Conclusions:

(1) PSBNA is vital to national defense

(2) PSBNA cannot continue without guaranteed government financing over the next decade.

(3) The cost of PSBNA is conservatively estimated as $600,000 per year, not counting overhead and expenses, with annual adjustment for inflation, etc. "

The secretaries worked on overtime and through the weekend typing up my report. Twinck handed it over to Robert S McNamara, who delivered it personally to the Pentagon. Based on this report the funding for Databytes, Inc. was doubled. Melvin went before the Board of Directors to propose that I be given lifelong tenure in the corporation. One of the rare moments of true happiness in my life occurred when I handed in my resignation. Another person who was pleased by my decision was Joe O'Hanlon. I had to stay up all night drinking with him in the Old Pirate . Although I now had over $7,000 in the bank, he insisted on paying for all the drinks. I regained consciousness the next morning at around 11 lying in my bed with a black eye and a sprained ankle. Joe, grinning from ear to ear, sat by my bedside with a few of the Old Pirate regulars. Looking about the room I

was shocked to discover that Joe had taken all of my books and either sold them or given them away . The money was used to bribe his connections. Within the week I had all my seaman's documents and a job as dishwasher and general deck-hand on a pleasure cruise circling the Bahamas.

At the port of St. Thomas in the Virgin Islands I jumped ship. Good riddance on both sides: I was the worst dishwasher in maritime history and took longer to swab a deck than the entire voyage from New York to the Caribbean. My bankbook sustained me for quite a long time. Coasting along on a vacation long overdue and blissfully indolent, I passed my afternoons placing the final touches on this memoir.

I expect that the first draft should be ready in a month's time. Future plans include a trip to Europe. I've never been there. It ought to be fun, (so I tell myself) , reinventing my alienation in a fresh new context.

That gotten out of the way, let us prepare, both readers and myself , to embark onto the most depressing interlude in the chronicle of my college education: the 8 years of graduate school.

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Chapter 16
Graduate School 101

" ...Aleph McNaughton Cantor matriculated from Zelosophic University on June 17, 1956 with the degree of Bachelor of Science. From brilliant beginnings Mr. Cantor descended quickly into an abyss of mediocrity and stayed there for the rest of his academic career. Despite renewed and undeniable evidences of his innate moral and mental insufficiency , a small yet distinguished contingent on the Zelosophic faculty continue to maintain that, to the contrary, Mr. Cantor is endowed with exceptional gifts. Several have gone so far as to qualify them as genius. Very much against my better judgment I therefore permitted Mr. Cantor to enroll in graduate school , which he did in September of 1957 .Following a year in Philosophy he switched over to Biology where he began working on his doctorate ."

- President (formerly Provost) Jameson Hardball . Note appended to the undergraduate transcript of Aleph Randal McNaughton Cantor.

So completely do my 8 years in graduate school epitomize the hibernation of the professional student that I may well have effected a revolution in this stereotype. I might have launched a successful career as a Hollywood actor by playing myself. Without hope or ambition, lacking experience or desire to acquire same, with neither dreams nor day-dreams , my mind was kept alive by scientific

curiosity alone; and, at least for the first few years, even that of a somewhat flaccid quality. No personal relations were formed, no bonds forged, no travels undertaken, no adventures sought. The only serious efforts that my situation drew from me were in the form of resistance to any innovation in my way of life.

The realization that I'd begun to walk with a shuffle filled me with pride : as a badge of cultivated indolence it could hardly be improved upon. Neither community service nor political activism held any attractions. I could be depended upon to add little or nothing to any conversation or interaction with the surrounding community. It would have made little difference to anyone had I been sitting on Shelley's boat, discussing Goethe's metaphysics on the day of his fatal accident.

Despite the absence of any diaries dating from this spent decade it can be stated with reasonable certainty that I did not communicate a single inspired , thought-provoking, clever or even amusing idea, to anyone . I don't recall any romantic attachments. They couldn't have been very deep, since I've forgotten them all. Had those years been devoted to turning screws mindlessly on an assembly line in a Detroit automobile factory, it would have been all the same to me; and I might have been doing something useful for others.

This description of my spiritual condition is far from uncommon. For many people graduate school is a period in

life much as I've described it. What made it particularly humiliating in my case was the ignoble contrast between the incredibly high hopes accorded me in the past , and the person I'd become; or so it appeared. Even persons who'd always been overtly hostile to me, in whom envy, whether justified or otherwise , had been inflamed to incandescence by the Aleph Cantor phenomenon, took stock of the extent of my fall from grace and became deeply ashamed; whether of themselves or of me was never terribly clear.

My livelihood was assured by odd jobs, including a part-time position in a prep school in a poor downtown neighborhood teaching remedial arithmetic to high-school drop-outs and otherwise preparing them for college of all things. I never showed up in the Math Department. In addition to having redirected my interests to Biology (which occupied buildings in which one was certain of never finding a mathematician) the ordeal of having to face all those heads bowed in shame would have been beyond my resources. Many people in the department must have thought I was dead, or - much the same thing - descended into total obscurity.

There was one exception to this general rule, one person to whom all that had happened to me meant nothing at all, to whom I still was, and would always be, the "chenius": Dr. Alter Buba.

" Ach: Aleph! ", he would grumble when I met him on the street or the school cafeteria, " Don't you lissen to zet

peck uf schlemiels! History vill tell. Vat ebaut Ysak Newton, ven he vas takyng thirty years to write his Preenkipya ?! Ach! Peck of lousy schlemiels! " Buba would continue on in this vein, muttering curses under his breath against the pettiness of a world unable to accommodate its great men.

Buba's vote of confidence was greatly appreciated: I liked to imagine that he possessed a special kind of insight, almost a mystical gift that enabled him to see into the heart of the real Aleph, dismissing all external evidences of incurable mediocrity. Indeed, many people would have been astonished to learn that I continued to believe myself as someone uniquely endowed, indeed the vessel of divine inspiration, destined, given enough time, to execute deeds of incredible importance for mankind.

The fact remains that there was something truly marvellous in the banality of my immediate performance. In my third year a small research fellowship supplemented the fees coming in from the prep school. My odd jobs included paper-marking, substitute teaching , and helping out in the local bookstores at the beginning of the term.

I was also beneficiary of cheap housing and the numerous discounts available to students. Later I discovered that by holding onto my student card I could extend the period in which I was entitled to these discounts another 5 years.

The consensus opinion among my colleagues, teachers and fellow students was that I'd found a permanent niche as

a professional student, in the same way that a panhandler or gangster finds his true calling after years of floundering about. Incoming Freshmen might manifest a brief initial respect for me on the basis of my erudition and glib patter; yet it was only a matter of weeks before they would be receiving the first of a series of warning lectures, with Aleph McNaughton Cantor as the prime example of the dangers of pushing one's mind over the brink in one's youth, with no hope of return.

I liked to imagine, and even told others that I was always out of bed by 7 in the morning. In point of fact when I got up depended on whether I'd remembered to wind up the alarm clock the night before. I often forgot to do so. After awhile I only wound up the clock when there was some morning appointment. Most other times I lay awake in my bed doing nothing until 8, or even 9.

After washing up and shaving - the beard would come many years later - I left the hideous Gothic cloister where the graduate students were housed, to walk across the patches of crabgrass that did service as a lawn to an authentically seedy American diner 4 blocks away. Its specialité de la maison was grease, decomposable through an infusion of old coffee grounds in hot boiling water, mitigated by soured milk. No doubt disgusting at first encounter, I soon grew fond of it. This breakfast ritual was an indispensable component of my way of life, providing the unique opportunity in the day for establishing contact with

the rest of the human race. Apart from the odd occasion there would be no further interaction , however cursory, with laborers, waitresses, dishwashers, jackhammer operators, clerks, truckdrivers, people who, by devoting almost none of their priceless hours to agonizing over the meaning of life , aren't paralyzed by a conviction of the futility of all effort.

My vulnerability in placing myself in this novel environment was compensated for by a considerable amount of condescension in dealing with it. Upon reflection, it's my hope that the other customers, understanding that I was young, ignorant and confused didn't take it personally. Before coming in for breakfast I made sure to load myself down with textbooks, papers and looseleaf binders, enough to make an effective barricade against the potent threat of their cordiality. These were hastily deployed over the Formica table in my booth just before the arrival of the watery eggs, burnt toast, French fries
dripping in the blubber of despised mammals and the rancid coffee. It made for an impressive fortress, stating in no uncertain terms that intruders weren't welcome.

From behind this firewall of studious obsession I flashed forth
dark, dirty glances at regular intervals like the pulsed beams of a rotating lighthouse lamp, taking in my environment in bite-sized pieces together with my scraps of bacon, eggs and odd items of information gleaned from my

textbooks. One might describe it as pointillism in action: a bit of egg followed by a suspicious glance to the back of someone's head , a brief flirtation with a waitress, then another bit of egg, etc. There is no doubt that the human stomach gets the same thrill out of finding nourishment in garbage that as farmers themselves do, breeding potatoes and tomatoes from dung-fertilized dirt. The food was awful and my manner of digesting it even worse. It is amazing that I didn't get sick once over a five-year period from this insalubrious provender. I think back upon that diner to this very day with considerable fondness and nostalgia.

Breakfast finished I would saunter semi-comatose to my assortment of odd jobs, seminars or other routine obligations. As a general rule my day was arranged to allow me to be in my lab in the basement of Agassiz, the Biology building, by 3 PM. Here I might remain, with my animals, experiments and studies until midnight or beyond.

At least one weekend out of each month was put aside for visits with the family. It became a fixture in my routine and I didn't give it any thought. Anyone sitting in on these visits might have gotten the impression that my parents deemed it their religious duty to demonstrate a total lack of faith in the character or abilities, or both, of their eldest son. They took turns in warning me that if I didn't want to end up as a bum - that was the term my mother used, my father used more genteel equivalents - I'd better start preparing myself for a career as an elementary school teacher. By

1962 they were offering to finance my certification as a teacher of kindergarten or pre-school .

I never doubted that they loved me - whatever that means. Certainly their total contempt for my abilities and their supposed love for me went hand in hand like a pair of newlyweds. As Mom had been born into circumstances of grinding poverty she was obsessed with the fear that I might starve to death; in modern-day America it's more likely that I might die of exposure. Into my father's earnest efforts to get rid of me I tried to read the benevolent concern that my intrinsic inadequacies would not cause me great unhappiness through a lifelong dependency on them.

He'd learned that it wouldn't do just to throw me out. During my year at Marigold Meadows the family had move to upscale surroundings in a suburb 20 miles to the west of Philadelphia. The new house was spacious, with an acre of grounds to the back, much of it growing wild, and an empty meadow on the south side. Through letters and telephone calls we'd worked out a date and time for my return to the busom of the family. On the afternoon of the stipulated day Dad sat in a chair waiting for me on the front porch. When he saw me walking up the driveway he came down to meet me at the foot of the steps. We shook hands and exchanged a few innocuous words. I recall that he commented on my weight, and how much healthier I looked since the last time he'd seen me. Then he bent down towards my left ear and

whispered that I should go around to the back. He had something important he wanted to say to me.

I followed his instructions, went around and waited by the screen door. 15 minutes later Dad came traipsing out the door. In his right hand he waved a much folded and frayed five dollar bill. In a single sweeping gesture he (in a manner of speaking) threw the money in my general direction and made a pirouette back to the door. Crying "Go!" - the situation was already out of his depth - Dad ran back into the house.

I sat down on the back steps and asked myself if 5 dollars could buy enough poison to commit suicide. A few minutes later Agatha , my 10-year old sister, came running out the door. Mom had sent her out to find out what I was doing sitting all alone in back of the house. I told her what had happened and she went back inside.

Agatha's return threw the household into a uproar. A short and exciting fracas involving shouting, banging and angry stomping around was followed by the predictable slam of the front door indicating that Dad was handling the family crisis in his usual manner, escape. Mom came storming out through the screen door, grabbed me under the armpits and dragged me inside . She cooked up a huge meal then, as I ate, sat at the table weeping over me. Over and over again she berated herself for not having done enough to prepare me to stand on my own two feet. If they

family had only remained in Freewash! she whined, I would at least be making my own living as a coal miner by now!!

The collapse of my father's strong-arm strategies was but the prelude to an evolving ritual that eventually vitrified like a block of nuclear waste: oppressive family conferences. They settled into a niche in the dead time of a Saturday afternoon, went on to dinner then continued all through Sunday: What was Aleph going to do to make something of his wasted life?

How could their poor, darling little Aleph extract what little remained from the dregs of his squandered opportunities? What was Aleph Randal McNaughton Cantor, who'd fooled all the professors at Zelosophic University into thinking he had brains, going to do with the rest of his life, now that the truth was out that he was, always had been and always would be, a total nothing? Now that it was clear to the whole world that the myth of his mental endowments said more about his acting abilities than it did about the folds of his grey matter? Their poor, unhappy Aleph, who'd so messed up his life that he'd reached his late 20's without a single skill, with no trade or profession, nor promise of a career. Without focus, goal, aim, ambition, hope! Not even a rich fiancée to support his innate incompetence!

These conferences were tedious beyond the narration of them. Yet I was not the one who suffered the most from them. Their real victim - and I say this without a twinge of sympathy - was my mother. Mom did all the suffering for the

3 of us. Even Dad attended them only because he didn't have the will power to refuse. In the end I debited them as part of the price to be paid for my peculiar lifestyle. She worried so much that I became afraid that the real catastrophe would occur on the day when she realized she had nothing to worry about.

" Aleph!", she moaned, " If you get married your wife can look after you. Then I wouldn't have to worry so much about you!"

" That's right", I can hear Dad chiming in, " And you aren't getting any younger! " How could I explain to them that I didn't want to get any younger?

" I just haven't met the right girl."

" So what?" Mom countered " You ought to be grateful for anything you can get. Every day your chances narrow down!"

Sometimes Mom could actually be funny. Once she said to me:

" Aleph, why don't you advertise?"

"Advertise for what?"

" Maybe you can get a wife that way! There are magazines that carry all kinds of ads, like Lonely young man seeks companion ; Interesting future offered to girl with the domestic virtues - you know what I'm talking about."

After the discussion about the wife came the inevitable wrangling over a trade. In this regard my father showed

more sense than my mother. On several occasions he suggested that I might become an electrical engineer: "Why don't you take up electronics? You can make a good living at it, and with your mathematics ability it should come easily to you. " I was allowed little time to consider the possibility before Mom would be sure to break in:

" Aw no Abe!! He's so clumsy! The next thing you know he'll stick his thumb up the wrong place on a TV, and burn his brains out!!" Whenever it can down to specific proposals Mom believed me incapable of handling them. Most of the time in these sessions was devoted to abusing me for the wreck I'd made of my life:

"Aleph, face it: you're a failure at 25! Aleph! Are you listening to me? I said you're a failure, and you're only 25! I don't know any other young person I can say that about! I don't think you're listening! Aleph? Aleph?" Of course I was listening. What else was there to do on a Sunday afternoon in that insufferable household?

" I'm listening! I'm listening!"

" Well: haven't you got anything to say? Are you just going to sit there?" She sat back and glared at me in triumph, daring me to come up with an answer.

“ I was only thinking that an impartial examination of my present circumstances would suggest that the concept of ‘failure’ in my case is well-nigh undefinable.”

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“Abe ! Abe! Do you hear that? More crap!” My mother leaned forward on her careworn elbows, throwing the full force of her self-perpetuating anguish into her words:

“Aleph! Aleph! When are you going to make something of yourself?”

I suspect that one will not find anything unique or atypical in my family. In one way or another its habits and modes of relationship are reproduced in the majority of families across America and around the world. Travel through India. I've never been there but I'll warrant you'll find that the domestic squabbles of its most miserable, famished and disease-ridden families, with a dozen mouths to feed and no resources for keeping up appearances, will nevertheless look a bit ridiculous in the eyes of any disinterested outsider.

In every household one finds a rocking chair over which there are recurring feuds around who has a right to sit in it ; a son destined to turn out bad or a daughter doomed to a wasted life from the age of 7; a ritual about the kitchen, or about dinner, or about cooking; an aunt or cousin or in-law whom no one likes but who has rights no one can question; sporadic rebellions which merely reinforce prevailing patterns; disgusting habits which have no option but to get worse; a general sense of mustiness as from old socks and bandages; and hosts of unresolved grievances which never will be resolved because resolving them would leave an even greater void than any previously existing.

Despite this stagnant cesspool of agglomerated misery the belief prevails that there is a sacred "something" in family life that must be preserved whatever the cost, financial, moral, psychological, political.

In my shameless heart I was quite happy in my career as a professional student. I found nothing unpleasant in coasting along as a bored, dilettante, depressed as much for form's sake as in reality, for the indefinite future. Once in awhile an old acquaintance from Mathematics, surprised to encounter me on the street after not seeing me for so many years, would invite me up to his place for dinner. I welcomed these invitations, yet prepared myself in advance for the inevitable round of questions: “What happened to the old Aleph McNaughton Cantor? Where's your research in mathematics? Why aren't we reading new communications from you in the research journals? How could you betray our faith in you? Where have all our hopes disappeared to ? ”

I became skilled in fielding this line of interrogation with snide comments like:

“ Remember what Solon said to Croesus : ‘Count no man happy until he has reached the end of his days.” . ’ or

“Expect lots of surprises before the Big Crunch.”

I was not just being supercilious. The sole nourishment of my inner life at the time consisted of fantasies in which every claim ever made about me would be vindicated. Immanuel Kant was in his 80’s when he wrote his Critique of Pure Reason . Sophocles ceonceived and wrote Oedipus

at Colonus when he was in his 90’s. Milton didn’t write any poetry between his 20’s and 50’s, then labored on Paradise Lost for the rest of his life . Sooner or later I convinced myself, my research was destined to take a turn for the better. In the meantime it troubled me little sit around doing nothing.

I tutored my students at the prep school; did my other rudimentary jobs to everyone's satisfaction; puttered about in my lab; played the recorder; went to movies and concerts; picked out notes on the piano; and mused about the profession I'd custom-tailored for myself: evolutionary ethicist . There was satisfaction to be derived from monotony. Whenever I was able to suppress the inner voice of duty which insisted that I had an obligation to think of myself as unhappy, I must have been happy as well.

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Chapter 17
Evolutionary Ethics

The biology buildings were reached through the Pruitte Botanical Gardens. This is a succession of greenhouses holding, each in its turn, South American, Asian and African jungles , courtesy of this or that foundation. Some of the plants luxuriating in them are very valuable. Walking past them each day on the way to my lab it became a recurring fantasy of mine that I might be able to train my lab animals to break into them at night and steal a few rare specimens so I could retire for life.

These notions never graduated beyond the stage of make-believe, yet I must have indulged this daydream almost daily over the course of half a decade. One might imagine that a thousand-fold repeated dream would have ultimately some impact on human history, but I suspect that mine never did; not for lack of resolve, but because I'd concluded that my animals were above such conduct.

Once past the Pruitte Gardens one is at a loss to identify any landmark that relates the appearance or grounds of the Biology building to the Life Principle. Dull dirty asphalt and concrete cincture the premises. It is all but impossible to breathe within the thick atmosphere of pollution pouring from a garbage reprocessing plant and nearby plastics factory. The building itself had been cobbled together over a century ago from the concatenation of

moist and crumbling limestone blocks that over the century had waxed progressively moister and flakier. Moss crawls out of every crack and joint from the foundation to the tacky shingles and tar on the roof, like some creature in anguish fleeing the scalpels, microtomes, spectrographs, hypotheses and erudition of the learned fiends running scot-free within.

In my day it was called the Agassiz Building. Owing to a flap over Louis Agassiz's racialist views, it was renamed the Pliny Building in the late 60's . Greeting me every day as I walked into the lobby was a grotesque statue of Linnaeus. The lighting was antiquated everywhere outside the labs, the lobbies, halls and corridors steeped in gloom, while a dense odor of formaldehyde dominated conversations, thoughts and reflection. By themselves the long corridors were depressing; but their contents made them even creepier. Tall glass cases, the final residences of hominid skeletons, rimmed the balustrade of the helical staircase descending to the basement. Stacked against the walls of the basement were glass-fronted packing cases adorned with anomalous organs gleaned from every corner of the animal kingdom: horse brains, skull fragments from vanished races, stomachs of sea monsters and giant reptiles, weird crustacean eyes, antediluvian eggs. At the end of one corridor one found a pickled female rabbit, cut open so as to expose the
foetuses of its unborn children. In the middle of another stood a glass case in the shape of a vertical column holding

the toes, thumbs and pecker of some nameless Scandinavian. Directly before the door of my lab and adjacent on both sides of the door, some savant of bygone days had piled up cases housing the cadavres of still-born human monsters. Some of them resembled people I knew and I gave them nick-names.

The cramped workspace that, with the greatest reluctance, had been allotted to me further intensified the lethal atmosphere peculiar to this citadel of the Life Sciences. I was grateful for what I had: it had taken me 2 years to be allowed even to apply for space. Given the well-nigh universal belief that my research was tripe, I'm sure the chairman of the department (who never dealt with me directly and, when we did bump into each other in the corridor, appeared to be wondering what I was still doing around there) thought he was doing me a favor by shoving me into this tiny cubicle, by which is literally meant a rectangular parallelepiped the height and width of a Le Corbusier Modular: 8 by 12 feet of floor space and a height barely sufficient to raise an arm above my head.

There were no windows. Those patches of wall which weren't painted a dirty green were dirty yellow. I began repainting the room about a month after occupying it, but the fumes, after killing more than half of my lab animals, almost killed me as well, and the project was abandoned. Even the plaster evidenced a certain antipathy at being obliged to live in such a dismal space. Two of my animals

were killed when 10-pound chunks of plaster torn loose from the ceiling and fell on their heads. A crack ran like an arthritic finger along the outer wall. Through it, day and night seeped tissues, organs and chemicals both organic and inorganic. With the hosts of experiments from the lunatic to the brilliant in progress around the clock in all the cells and chambers of Agassiz Hall, one can exercise one's imagination in visualizing the sorts of things I might find spilling into the cages, floor and tables of my lab.

Yet it was mine - all mine - and I grew to love it. I had my books, my reprints, typewriter, caged animals and measuring instruments (several of my own invention) all together in the same location. The animal cages, piled one on top of another, filled up more than half the room from the back wall. The remaining space was taken up by a worktable, a sink in the corner and a tiny bookcase. Sitting alone there for long hours, engrossed in my work, undisturbed by visits or unwelcome sounds other than the clatter of my typewriter, the clanking of the pipes, the gibbering of my animal co-workers, and my relentless talking to myself, time and space faded away and dissolved and I forgot my surroundings and (in the Pascalian sense) my own greatness and misery.

There were some days when depression got the better of me. Then I might close up shop and climb the 4 flights of stairs to Harold Malakoff's lab, just to se what he was up to. In contrast to my hermit's cell, he was a beneficiary of a

vast and generous endowment: a room whose usable floor space measured 40 x30 feet, with light pouring in from half a dozen windows, state of the art lab facilities, several nubile lab assistants and half a dozen grad students to do the grunt work for the final reports to which he signed his own name. He wasn't in the least afraid of hard work himself but he loved taking all the credit. "What are grad students for? ", he joked. Though myself a grad student I'd been out in the real world and couldn't have agreed with him more.

I was always welcome. Harry needed somebody to look down on. Not that his friendship wasn't sincere; we both valued the opportunity to communicate with someone. It didn't disconcert me that he sneered at what I presumed to call my "biology". He felt in fact that some of my ideas might be credible if I only called them “philosophy”, the generic label for everything scientists hold in contempt ever since the inauguration of the "Age of Reason" in the 18th century. In some ways Jenner's invention of vaccination, while it has saved countless thousands of lives, also marked the beginning of the end for thought. Who needed it anymore?

Harry's condescension also masked a certain amount of envy, common among scientists who find they need mathematics for their work but aren't terribly good at it. Most of the time Harry and I didn’t bother with shop talk. We were content to talk about everything else, the news, the state of the world, books we'd been reading, academic politics at Zelosophic, gossip about colleagues in the biology

department, soggy Philadelphia anecdotes, personal problems, things of that sort.

Malakoff was buried knee deep in cutting edge research with plant lice. The fantastic spread the university had given him was built on a mighty foundation of 20 grants from the Department of Agriculture, agribusiness corporations, agronomy institutes and agricultural colleges. Two grants were from the National Science Foundation, 4 from the Rockefeller Foundation. He knew how to play both ends against the middle: the Rockefeller supported his work because it might possibly lead to ways of eradicating plant lice as pests, while the National Science Foundation supported him because he knew ways to make them thrive for the needs of basic scientific research. Harry himself was only interested in their biochemistry; he couldn't have cared less about alleviating the miseries of mankind's starving millions. There was something almost physical about the way Harry reeked of ambition. In most people I would have been repulsed, but coming from him it added to his charm.

Once in a long while I sought out his advice on purely scientific matters. Perusing my old notebooks I realize that on April 15, 1961, something in my research related to plant ecology inspired me to stop by Malakoff's lab. As I swung open the main door to his lab Harry looked up from peering into his microscope and waved to me. Laughing he got up off his stool:

"Hey there, Aleph! If it isn't the last of the Huxleys! "

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We pulled up chairs and sat around gazing at the ceiling like a pair of astronomers who share the secret knowledge that beyond it lies a sky filled with myriads of stars.

" So, Aleph. What's new?"

I knit my eyebrows: " Why, Harry, what a question! The whole world! The whole universe is born anew every second!"

" You mean every second by second." he chuckled, " the whole caboodle is accelerating." I gave him a brief outline of the questions I thought he could answer. His face puckered up in a wry something between a smile and a frown:

"Ecology! " Malakoff threw up his hands in mock despair . "Ecology, Aleph ! I can show you ecology all right!" As he stood up he made a sweeping gesture in the south-westerly direction of the room where his lice - infested crops were being grown. Every year, on a scheduled crop rotation his team planted a dozen plots with rutabaga, tomatoes and tobacco. One of his favorite jokes was that even if his grants didn't materialize for that year, they would always have enough to eat. He led me to the tobacco plants:

"Ecology! " he continued , as if hypnotized by the very word , "Ecology: it's just a word. But behind that word lie - infinities !! Aleph, just take a look at this!" Walking in the train of Harry's impulsive gait I followed him back to his worktable where a dozen microscopes were aligned in a row.

He motioned me into a chair and pushed one of the microscopes in front of me.

"Ecology in action!" A small patch in a culture dish filled with agar-agar had been magnified a thousand times. What I saw left me aghast. Hundreds, perhaps thousands of micro-organisms, vicious creatures all of them, were devouring each other in unabating rapacity. From my point of view, this bloody debauch - or whatever it is that substitutes for blood in such beings - was utterly irresponsible and senseless. No, worse, it was mindless! Where was the universal principle of mentation that Descartes ascribes to all sentient beings? So caught up were they with the immediacy of their need that one could not imagine them having any spare time in which to investigate the intrinsic premises on which this way of life was based.

I was fascinated: I must have stared a full ten minutes at this wanton autopopagic orgy. I blushed from the embarrassment of my ignorance. Totally perplexed I looked up to meet Malakoff's benign know-it-all stare:

" What's it all mean? Is that all there is to it? "

"More or less, Aleph ." He removed his thick glasses and rubbed his eyes, " It puts me in mind a Tingley sculpture programmed for autodestruction, with a Tingley himself hanging around to make another one. No rime or reason, no sense to it at all. At most a - how shall I put it? - A sort of aesthetic aura, a harsh and unnatural beauty one associates with the wastes of Antarctica or the lunar

landscape .. beauty which, we can safely assume, the microorganisms themselves are in no position to appreciate."

Harry stood up again and motioned for me to follow him back to his tobacco plants. As he parted them with his deft fingers he cried :"Love me, love my lice! "

And, indeed, looking at the plants' innards I saw how they were being ruthlessly wasted by hoards of greedy parasites.

"It's tragic ...", he paused, as if that weren't quite the right word - "I guess. Yet since it's always the same, it becomes meaningless. The lice eat the plant, the plant dies. Luckily the plant has managed to reproduce itself before it dies. So, good, we have a new plant: so what? Then the lice die. Of course the lice also reproduce.

" The new lice eat the new plant, and it also dies. Etcetera, etcetera, so forth and so on, forever and ever. And it doesn't mean a damn thing !" Harry had to pause to catch his breath:

" Please, God, tell me that it means something! Aleph, can you find any meaning in this endless carnage? I wish it meant something: but it doesn't!!"

His view was typical for the majority of people working in the Biology Department. If you let drop the slightest hint that you might believe that your research meant something, you were jumped on by everyone as a vitalist. Investigators who treated their guinea pigs too gently for ran the risk of

being ostracized for believing that lab animals had souls. To give him his due, Malakoff was much more open-minded than his colleagues in this regard. Whenever I announced that I was looking for a direction to evolution he merely told me my ideas were nonsense and let it go at that.

At the other end of the spectrum lay people like Clorinda Wales.

She was the desiccated, tenured old spinster in rapid process of deliquescence who devoted the better part of her days to dissecting frogs in a horror chamber on the 5th floor. Had she ever overheard some of the ideas I confessed to Harry she would have convened a Star Chamber to purge me off the campus!

It was also my sorry fate to have to share my basement corridor with a madman. His narrow laboratory stretched a good 40 feet from the door of the basement practically to my room. I forget his real name, no doubt for reasons of psychic survival, but the Biology faculty had given the nickname of "Dr. Mabuse". Mabuse was a man in his middle 40's. He spoke English with a thick Central European accent, actually an odd Czech dialect spoken by a small number of people in some inaccessible Bohemian province. I say this because nobody, not even Czechs could figure out where he'd come from. His posture was wretched; indeed he was virtually a hunchback. His nervous tics could become very pronounced when he was upset or angry, that is to say almost all the time. In his face was a mixture of intelligence,

craftiness and brutishness - altogether an ugly combination. He was undeviating in his determination that nobody should like him. Frequent seminars, open to the public but usually attended only by biologists, were held a large auditorium on the second floor of Agassiz. Mabuse always sat in the front row, doing what he could to discountenance the guest speaker with threatening gestures and hideous faces. At the same time he welcomed the fact that he was universally feared and detested because that left him alone to do as he pleased in his laboratory.

He hated Jews and most other nationalities (in that order). He was always insinuating that the men around him were all homosexuals and the women all possessive monsters who would rape him if they could. He never let pass an occasion to let us know that he held all the research being done in the department other than his own beneath contempt.

Mabuse claimed to be investigating heroin addiction in dogs, a professed goal that brought in lots of money in grants. No dog survived his tender mercies more than 3 weeks. In his experiments he kept feeding a dog massive doses of heroin until he vomited it up. The heroin was extracted by refining the vomit through a filtration system, then fed to another dog. The heroin could be passed through the stomachs of 10 or more dogs. Mabuse claimed that he was studying the changes in the chemical structure of the heroin molecule as it passed from vomit to vomit. Apart from

some vague mumbling about human welfare, Mabuse never bothered to give a serious justification for this work. If pressed on the matter he would have said that it was meaningless. Anything else would have gotten him labeled as a vitalist.

Conforming to the trend in the department I avoided him as much as possible. If inadvertently I bumped into him on the way to my lab I recoiled as if a piece of dog shit had been dropped on me. Mabuse for his part sniveled in such a manner as to indicate that some disgusting odor had gotten loose in the basement (worse than the ones normally permeating the building) the exact origins of which he was unable to discern.

Being as absent-minded as any other scientist it took a number of unpleasant encounters before I conditioned myself to never walk by his lab. The turning-point came in the winter of 1961. As I shuffled past the 4 translucent glass-fronted door windows of his lab a series of long drawn- out howls of wretched, dying dogs froze me in my tracks. Tension had been building up between us for years and the inevitable threshold at which I would lose control had been broken. I ripped open the door of his lab and yelled : "Mabuse, you madman! Desist! Desist at once! "

Dressed in a lab smock caked with blood and dog guts Mabuse was sitting hunched over a ledger with his back to me. He was virtually deaf though I'd shouted loudly enough to get through to him. The osteoporosis that would kill him

by the end of the decade made him unable to turn around quickly, but eventually he did. For what seemed quite a long time but was probably only a few minutes, he stared at my face, No doubt he needed to convince himself of the reality of my existence. With his long left index finger he scratched off a few calloused flakes of tough dry skin forming a thin cover over his sunken cheeks . Then - if the word makes any sense) - he smiled:

" So, Kenter? Aleph Kenter! You gotta Yiddish name, huh! Is you duh Yiddle mit der fiddle? Whut's it to you, den? You give me the paychecks, I do something else. You tink I like sitting all day long mit stinking bodies of dogs? So, you get out!! "

The atmosphere was permeated by the stench of shit and vomit. Nausea prevented me from doing more than stare, speechless with fascination, at his experimental setup. Six dogs, each of a different species, were secured by metal bands around their torsos and strapped along the wall facing the corridor. Lengths of plastic tubing extended from the stomach of each dog to the one adjacent to it; the two dogs at the far ends were likewise connected by a long tube running along the floor. At the mid-point of each tube a whining pump functioned as a filtration mechanism for the flow of visceral refuse.

No longer was Dr. Mabuse obliged to spend the better part of his days up to his eyeballs in dog vomit! The huge quantities of heroin fed to the first dog in the chain

automatically passed through the filtration pumps and into the stomach of the second one, and so on, through the sequence of six dogs then back to the first. Meters of various sorts peppered the apparatus, from which he could read off his data sitting down in chairs arranged at convenient locations.

Mabuse grabbed a steak knife and waved it in my direction: "Git out, Kenter! Git out you dirty Yid! Git out from my lab! " he hissed, but I didn't need to be told twice. I slammed the door shut and reeled down the corridor to the sink at the far end. I must have vomited for half an hour. Then I locked the door of my lab and didn't come out again until well after midnight. After that I never forgot to take the roundabout route that avoided having to pass by his lab. When the story made the rounds of my colleagues, they just laughed at me. One of them suggested that I take up a collection for the "Be kind to dogs" fund.

Thus history repeated itself and I found myself all alone, even in the provincial little world of Zelosophic's biology department. Nobody ever came by to inquire into my research or give me either encouragement or criticism. I was labeled an ontogenist, scorned as a vitalist, nobody had a good opinion of me. None of them came close to understanding what I'd meant by describing my field as Evolutionary Ethics, my profession as "evolutionary ethicist". Nor did anyone express any interest in acquiring such understanding. It was a shame, really. One good

conversation would have convinced most of them that my methods and goals were credible, and every bit as scientific as theirs.

Evolutionary Ethics - the phrase comes from an essay by Julian Huxley in honor of his grandfather. At that time it was (and still is) considered something of a bastard science, and neither Biology nor Philosophy of Science were prepared to acknowledge its existence. The founder of Evolutionary Ethics, the very reverend Anglican Bishop Sylvester Higginsplop got the idea from reading the Social Darwinists, without having the least idea of what they were saying. Higginsplop and I corresponded briefly before his death in 1961. It is a sad commentary on the speciousness of Zelosophic's claim to intellectual greatness that in the 5 years of laboring in the basement of Agassiz I didn't acquire a single co-worker or graduate student collaborator.

Even the most sophisticated versions of its philosophy and methodology can be derived from the fundamental postulate:

" The Survival of the Fittest is NOT a Tautology ! "

That's the crux of the matter. Working all alone in a tiny basement room, year after year, I found myself talking to anything that breathed. In those years I was working with many different kinds of animals, even sea urchins and nematodes. My favorite auditors were rabbits; it may have been because I was fond of their big ears:

" If Darwin is a tautology" I would say to them, " then you are a tautology!" Their occasional squeals of indignation gave me the gratifying sense that I was being understood.

Speaking in the manner of a popularizer - yet not inaccurately - Evolutionary Ethics can be understood as a sort of crossbreed between Teilhard de Chardin and Jack London. Everything Teilhard de Chardin ever wrote, both the readable and the indigestible parts, including the writings damned by the Catholic church and, I warrant, even the pages burned in his Bunsen lamps, is one long cry of defiant affirmation: Evolution is going somewhere !

In his work as a paleontologist Teilhard had come across far too many bones in this gigantic landfill of a planet to continue to believe they had no reason for being there. Indeed Teilhard became so desperate for meaningful bones that he buried some of them himself. [30] In his mind's eye Teilhard lined up all the bones he'd studied, from the battlefields of North Africa to the sands of the Gobi Desert , and mused: Where the hell are they all going ?

For a deeply religious mind the answer was ready-made with the question : they're going to God ! Had Plato read Darwin he might have composed a dialogue claiming to prove that they were evolving to the idea of the perfect bone. Teilhard, obviously, believed they were evolving to

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30 **Chardin's other claim to fame is as a co-conspirator in the Piltdown Man hoax.**

the perfect Christian bone, every one of them, even the famous tooth of the Buddha in Sri Lanka.

Teilhard's next innovation, and his most brilliant, was to interpolate from the biosphere into the noösphere (his own coinage) , the realm of the psyche ; there are plenty of old bones there, too . The Chardinist noösphere is something in the nature of a universal Starship Enterprise, a space vessel carrying life to the ^ -point . One doesn't have to agree with his identification of the ^ -point with the Second Coming - William Butler Yeats certainly wouldn't have - to be impressed by the larger features of his teleology.

Jack London's take on Evolution lies at the apposite noöspheric pole: The catch-phrase "Raw in tooth and claw " encapsulates the alpha and the omega of his primary hypothesis. London maintained that the human race had made no progress whatsoever in its hegeira out of the caves. Trapped beneath the oppressive Folies Bergères of civilization lies an unrepentant Oedipus Complex, with Mankind as the Father and Nature as the Mother. The murder of the former is called Civilization, the rape of the latter masquerades as Science, and we end up no better than we were before.

London effectively sets forth his thesis in a startling memorandum, the abstract of which can be found in the

Masterplots [31] abstract of “The Call of the Wild” Cast into the form of a novel, it sets out to prove that what we call a dog is nothing more than a hypocritical wolf. In the heart of every dog, buried under tons of false notions of civilization one invariably uncovers the ancient lust for the pack. Yet - and herein lies the true paradox - there are many more dogs around today than there are wolves. Thus it would appear that London, no more than deChardin, has not been successful in indicating the direction of Evolution's Arrow for mankind .

From reading the works of these other thinkers including Charles Darwin, Louis Agassiz, Herbert Spencer, H.G. Wells, all the Huxleys, Henri Bergson, D'Arcy Thompson, H.H. Godard, W.H. Hudson, Havelock Ellis, Nietzsche, Ernst Haeckel, Freud, Jung, Bernard Shaw, Zola, Kropotkin, Adolf Hitler and just about everyone else who's devised his own mish-mash of pseudo-evolutionary ideology, I reached the conclusion that this was a domain of thought rife with confusion, for which a return to strict scientific method was long overdue.

A scientific approach must be based on mathematics. There have been many fiascos in this field, starting with Rashevsky's ambitious "Mathematical Biophysics". By the early 60's , with the discovery of the DNA double helix, the working out of the mechanisms of genetics, together with

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31**Volume II, SALEM PRESS, 1996, pg. 903**

the rich loam of primary data, both geological and contemporary, I felt that sufficient resources now existed to start making a cautious extrapolation of evolution's direction in the immediate future.

Mathematicians call such a direction a gradient . The motion along the gradient through universal time is called a world line . By the application of numerous philosophical, religious, statistical and other criteria I set out to look for indicators (biospheric or noöspheric) relevant to the direction of evolution for a period of, say, about 5 million years. If one imagines a day as beginning with the Cambrian age this works out to about 25 minutes of biological history.

It was my belief that from these flux curves I could extract a single arrow giving both the direction, and the intensity, of Evolution at the present time. This arrow points away from certain creatures and towards others. It sticks in the craw of the living kingdom like the accusing finger of the Cosmic Prosecutor. The coelacanth may survive another billion years; the human race may perish tomorrow. Even a partial success in extracting this arrow from the raw data exposes the naked favoritism of Nature, and may tell us which species are doomed and which will be allowed survive. All ethical Darwinians must heed its stern decrees.

I believed that this idea , so staggering in its implications yet so simple in its statement, had been enunciated by many others over the course of a century. After all, what I was proposing was no more remarkable

than what meteorologists do when they forecast the weather. They, too, sift through the available data, estimates the size and relative importance of trends, decide what's relevant and what isn't, calculate their gradients and makes their predictions. Yet hours of library research failed to uncover the name of someone else who'd looked at the problem in exactly this way.

The possibility of being able to construct such an arrow directly out of the raw data lying about loose and unclassified in Nature's repositories came to me, like so many of the great ideas that have shaped Man's destiny, in a blinding flash of insight while engaged in some tedious activity. It was on September 19th, 1962, graduate student's registration day at Zelosophic U. I was standing with a few thousand others in a long line that wrapped around the newly constructed admissions center, Bantam Hall. After zig-zagging across campus, it went in one door of the Student Union and out another and spilled over into the traffic on Hemlock Street. [32] The line snaked through the campus for the better part of the day, much in the manner of a boa constrictor being pushed through a cold-cuts slicer, all to the end that our registration papers be given 3 pretentious stamps. A green sheet was then torn out and handed back to us and we were sent on our way.

32**It is traditional to give the names of trees to Philadelphia's streets . This name had no doubt by suggested by its philosophical catchet.**

#418...

The day was muggy and hot - rare though not unknown for a Philadelphia September. It was unpleasant and debilitating to be standing in line for such a long time, and there were times when I felt as if I were a camel with a half-ton load on his back, moving in a long caravan across the Sahara towards Port Sudan.

Not unlike - it struck me - not at all unlike Life's toilsome trudge up the slopes of Evolution! And in that distant time, when all creatures great and small shall reach their distant goal, when, at the end of eon upon eon the tiniest microbe shall have passed to the Omega Point, might not the God who awaits us be some old bureaucrat with 3 day's growth of beard and dreaming of His pension, crushing an inked rubber stamp on our bodies, to indelibly impress the single word "Processed" into our flagellated flesh?

Very likely, very likely . Nor should one overlook the major differences between these processions: the line moving to Bantam Hall was directed, and we were aware of that direction. Whatever miseries we put up with in our long ordeal came from decisions knowingly, if not altogether willingly, made. By knowing its direction we could delude ourselves with the notion that we had the freedom to step out of it. I observed about 3 students who did just that. Had they decided to find a job, or go into the army, (Vietnam was then only a pale cloud on the horizon), rather than face

another year in grad school? Would they begin a search for another school that would be kinder to their feet?

Such speculations helped me forget my surroundings. I considered the possibility that there was a person at the head of the line, a born leader of men, a visionary or prophet, someone who had made it his business to show up on graduate registration day to preach the futility of entering Bantam Hall to turn in and receive back papers entitling them to another one , three or even ten years of stultification at Zelosophic. Given the proper requisites of force of personality, charisma, energy and determination , such a person might, like the Pied Piper of Hamelin, lead the entire graduate enrollment of Zelosophic of the campus to a nearby restaurant for pizza and milkshakes. Were this to happen (and it was not impossible only extremely improbable) the history of Zelosophic U., of Philadelphia, of the United States , possibly the world itself, would be altered . At the very least we would obtain some relief from the heat.

Taking my cue from Teilhard, I extrapolated from the Phenomenon of Graduate Registration to the Evolution of all Living Creation. Although we fancy we have some notion of why we're remaining in the line and where it's going, most animals are far more honest and would readily admit that they haven't a clue! For any wretched creature embroiled in its tentacles, Evolution has never meant anything but unremitting, disgusting, idiotic and totally pointless pain. The

very earthworms would opt out if they saw some way of doing so!

It was in these terms that I pictured the fundamental dilemma of humanity . It is ignorance alone which keeps us permanently on the rack. Uncover the gradients of evolution then see if we can alter their direction. That's where the evolutionary ethicist has a role to play.

Someone taped me on the shoulder. I looked up to confront the hostile face of a campus security guard.

"What's up, bud? What're you doin' hangin' out here?"

I raised my head and looked around. It was late evening. In less than an hour it would be nightfall. The realization came to me with something of a shock that I'd been left all alone leaning against the iron railing going up the steps of the Student Union. It was over an hour since the line had moved through the Student Union and left me to my fate.

It was a frightening confirmation of my cogitations on the grim finality of Evolution's dictums: I had missed Registration Day ! I had missed out on registering for graduate school in the very act of discovering a reason for re-enrollment in graduate school! I raced up the steps of the Student Union, through the front door and out the back, then climbed the slopes of the campus towards the Admissions Center.

Bantam Hall was the ugliest and most recent addition to campus architecture; since then several rivals have been

erected. It had been designed to house all the new data-processing technology for the inflated bureaucracy that Zelosophic U. expected to take on board when it became the Megaversity of its dreams. Bantam is a 6-story building shaped like a robot's head. One could presume that the rest of its body lies buried under ground. Large sheets of plate glass loom vertically from its foundations, inset in sleek cobalt blue blocks of finished concrete reflecting the vinyl plastic ideology much in favor at the time it was built.

All out of breath and limping I approached the building. Every floor except the 4th where the clean-up crews were working , was dark. I ran smack up again the glass and metal doors and banged my fists against them with all my strength. In due time a janitor, with the loping gait of someone who refuses to be hurried, came into view . He opened the door a crack and beamed his flashlight straight into my eyes.

"Whad'd'ya want ?"

"Let me in! " I cried, "I want to register for graduate science! "

" Too late ! "

"Isn't there anyone I can talk too? All I need are 3 stamps on this! " I extended my registration forms.

" Go home, d'y'ah hear! Come back next year! "

" But this is silly. Why can't I register now? Can I come back tomorrow? Next week? Next month...."

#422...

The janitor lowered his flashlight. As my eyes regained their focus I saw that he was grinning at me. Furthermore the teeth that filled most of that grin appeared unusually large. No doubt my senses were playing tricks on me. Perhaps these were only effects of the lighting.

He learned forward out of the shadows and the rest of his head emerged. His ears also seemed a trifle too large. He had big hands as well which to my mind had something of the shape and appearance of paws. Then it struck me forcibly that his forehead was abnormally pronounced and that his lower jaw jutted forward.

There could be no mistake.

I was looking at a Neanderthal Man.

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Chapter 18
The Home Stretch

Piecing together the story from accounts given me over the years, it seems that emeritus professors Wiegenlied Wissenschlaf and Régard Nombril, then in their late 60's, were lingering over a chess game in the Graduate Lounge of the Mathematics Department one overcast afternoon in September of 1963. As befits eminent retirees, they were reminiscing more than they were playing, and it occurred to Wiegenlied to ask the question no one had articulated for almost a decade. It is easy to imagine him waving an index finger in the air and rocking as he asks:

"What even happened to Aleph McNaughton Cantor?" Befuddlement at the question prompted Régard to look up from the chessboard: "McNaughton Cantor? McNaughton Cantor? Hmm; don't
recall the name. It does ring a bell. What's he done? What's his field? "

Wiegenlied stretched out his legs , sinking lower into his chair, enabling him to make better use of his paunch as a snare drum for idle fingers:

" I have a vague memory of him showing up here in 1948 with a remarkable paper he'd done on the disintegration...or was it the fusion? ... of the rings of Saturn .... He was quite young, I recall. Let's ask Bob."

Bob Boolean had just turned 39. Presently the department chairman, he was sitting by himself before a

table at the opposite end of the room. Horn-rimmed and partly bald, wearing a suit a size or more too large for him and suggestive of a frayed doormat, everything about him contributed to his air of learned distinction. An active figure in the developing field of Several Complex Variables, he'd been too preoccupied with stretching the rubber homeomorphism sheet over the arm of his chair to overhear their conversation.

At the sound of his name he turned around, laid down his pipe and, with the defensive squint of a shy scholar, pushed the spectacles to the bridge of his nose, the better to regard his colleagues.

" Bob, " Wiegenlied continued, " Do you know what Cantor's up to these days? Have you heard anything about him? He must be at some university somewhere. That is, if he's still living. "

" Cantor? Cantor? " Boolean's brow furrowed. His left hand covering his chin and most of his mouth, his body resumed the posture to which a life dedicated to deep thinking had accustomed it. With some perplexity he replied:

" I haven't seen hide nor hair of him since.... about 1956. The department gave him some gut courses to teach after he got out of the mental hospital because we felt sorry for him , things like pre-calc and linear algebra. Then I heard somewhere, quite recently in fact, that he was preparing a thesis in 'philosophy' " - his tone of voice indicated derision -

" or some such thing. Where I don't know. Cantor made quite a splash in 1951 , didn't he, with that paper on the moons of Jupiter? Hasn't done a thing since. Never will, I warrant."

Nombril's hair fell over his brow as he stared at his navel,

"...moons of Jupiter...moons of Jupiter..." He'd fallen into one of those states of deep introspection, from which no worshipper at the shrine of Science would dare awaken him. Boolean and Wissenschlaf continued to discourse on various topics until Régard emerged spontaneously from his trance and cried:

" .... Gentlemen! That paper was published in 1944 , not 1951 , by a very famous Polish mathematician by the name of Kantorowicz . You'll find it in the Comptes Rendus of that year. "

But a few moments later, with a gesture indicative of weariness and recollections of better days he shook his head: " No ... that can't be right.. the war was still going on. I don't know. My memory is shot to hell I fear "

" 1944? That's impossible! ", Boolean concurred " I was only 18 then, and still in high school. But, you know..." Bob Boolean began gesticulating in the air, making calculations on his fingers ....." Cantor gave a talk on that paper in front of the whole university in .... 1948! Yet he couldn't have been more than 12 or 13 at the time.. That's right ! " He snatched up his pipe and bounded out of his chair:

" That's the whole point ! He was only thirteen years old ! " He began pacing about the room in eccentric convex ovals:

" That's why everybody was so fired up about him! " He paused to gaze for a minute out the window searching for the lost lemma. One sensed that he was reliving memories that were fairly painful to him. When he turned back to address the Lounge, his face his face was flushed with emotion:

"Prodigies of his caliber were always being picked off by Princeton, or Chicago, Cambridge , Göttingen. Later they were being wooed by Harvard, Berkeley: institutions with clout or money. With the acquisition of Aleph, Zelosophic U. stood in a fair way of having its name engraved in the hallowed halls of mathematical history: Aleph McNaughton Cantor! The pride of Zelosophic U. The Math Department's bid to immortality ! "

A dozen graduate students were gathered about Boolean's feet - to be more precise the old clod-hoppers he'd worn for the last 6 years - hypnotized by his rapt evocation of these recently vanished pages of departmental folklore:

"Why, not even Zelosophic's illustrious founder in the 18th century, a man of extraordinary versatility, no less distinguished in public life than in the arcades of science, whose very name serves even today as a byword for Renaissance achievement ... " Boolean coughed ; his fulsome encomium had robbed him of breath. " ... ever did

anything as fabulous as producing a major result in Astrophysics at the age of 12!

Taking a sip of tea followed by a drag on his pipe he continued:

" Its no exaggeration to say that for the next two years, Mathematics glowed in the reflected aura of that wretched Aleph Cantor... that criminal Aleph McNaughton- Cantor! That!...That!" Like ...like", Boolean's hands clutched after an appropriate image:

"in the same way that a complicated, technically demanding yet essentially trite theorem in higher mathematics will miraculously radiate in unimagined glory from the adjunction of a single corollary ! " He was close to tears,

" Then , gentlemen ...all too soon ! The day of reckoning came ! It was the end of Le Temps des Illusions Perdues !" His shrug indicated bitterness:

" The marriage soured long before the end of the honeymoon! No sensible person, no-one endowed with normal intelligence, could have predicted that Aleph McNaughton Cantor, having brought forth an astonishing tour-de-force at the age of 13, would then proceed to do absolutely nothing for the rest of his life ! "

Outbursts of sympathetic indignation could be heard from every part of the room:

" Had our department not been so shamelessly betrayed we would not now be sitting in a threadbare

lounge , scratching our heads trying to figure out why all the NSF grants are going to Columbia or Princeton instead of us! Or why the ICSHA [33] - I would remind you that Hans Mengenlehre was its president for 10 years - passed us up altogether and held its inaugural conference at the University of Michigan at Ann Arbor. Or why there isn't a single top-echelon European research mathematician who responds to our calls for exchange scholars. All we ever get are the mediocrities!"

A Danish Visiting Scholar stood up and walked out of the room, slamming the door behind him. Boolean wagged a finger in his direction and glowered, " You see! Yes, that's what I'm talking about! I don't give a damn what he thinks, it's the truth!"

Their running feud had been the talk of the department since his arrival at the beginning of the school year. Most of the faculty agreed that the young Dane was actually quite a good mathematician, but that Bob Boolean belittled anyone working in Knot Theory:

" Or why the radio telescope being built out in the suburbs as a joint project between Haverford College and Bryn Mawr wasn't given to our ideally situated observatory grounds near Wilmington, Delaware.

" Gentlemen! : The aureole of Cantor's ignominy has cast its pallor over everyone of us! It is he, and he alone,

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33**The International Conference of the Slice Homology Association**

who bears the responsibility for the sad fact that we've acquired the reputation of a provincial backwater." Boolean spread wide his arms and blubbered: " The sad truth of the matter is, that we have nothing to offer our graduate students beyond the memory of past greatness, a greatness that slipped away in the very moment of its conception !"

Bob Boolean sank into an easy chair, overcome with a sense of defeat. A long silence ensued as he sipped his tea. His left arm fell over the side of the chair almost to the floor; indeed his whole posture seemed to indicate that he might prefer it if he were rid of this earthly existence entirely. Wiegenlied Wissenschlaf was the first to respond:

" Can't something be salvaged from this mess?"

Régard Nombril concurred: " I was thinking somewhat the same thing myself. Where is Cantor these days ? He must be working on
something! In 20 years, one would imagine that even the most backward idiot can contribute something to humanity ! "

Boolean grimaced in disagreement: " I don't know. He was a teaching assistant here until around 1956; then he just disappeared. I assume he got his Ph.D. from somewhere, though I've never seen his thesis. We may be able to do something with that. It won't be another "moons of Jupiter" of course ; yet the combination of that thesis with his earlier

work might interest the editors at Springer-Verlag . To tell you the truth I don't know where to begin looking for him. "

That seemed to end the subject for the time being. Turning away from his audience, Bob buried his face in that month's issue of the Bulletin of the American Mathematical Society . In a few minutes he had to lower the magazine, aware that everyone was continuing to stare at him. He fidgeted uncomfortably, clearly not immune to twinges of conscience:

" Well, all right. We should try something, shouldn't we? There may be somebody over in Bantam Hall who know what he's been up to. I'll get them to let me look at the records. " Then, as if transmitting some profound universal truth he'd just discovered he added: " It's impossible for anyone to completely vanish in this day and age."

A week later an excited Bob Boolean strode into the Graduate Lounge brimming with news: " I set up an interview with the Provost. She made a few phone calls. The people she spoke with informed her that Cantor changed majors after he got his B.Sc. in 56. For a year or so he was enrolled in another department . She wasn't sure which one it was, but suggested I visit Philosophy.

" So, yesterday I did go over to Philosophy. They denied Cantor's relevance in 1957. The present chairman's an old friend of mine and promised to keep me posted. Just this morning he called me up to say that Cantor had switched to Biology. His information was second-hand and several years

out of date, but he suggests that we pay a visit to Agassiz Hall. They should be able to tell us where he is."

The following Monday in a pouring rain, a group consisting of Bob Boolean, Wiegenlied Wissenschlaf, Régard Nombril and two math graduate students entered Agassiz Hall, making straight for the office of the chairman, Dr. Wilfred Stoma.

"Cantor? McNaughton Cantor? Yes; I guess you might find him vegetating in some evolutionary niche around here."

"What ?? " Beside himself with astonishment, Bob once again readjusted his spectacles : " You mean he's still around ???!! "

"Suppose so. I ran into him in the lobby a few days ago. Odd habit of his, the way he stares up at that statue of Linnaeus - awful thing, I can't get the university to get rid of it - as if he's onto something that puts the old man in his place. I don't keep dossiers on people around here. He doesn't impress me as the kind of person that's easily gotten rid of."

Confused glances imbued with latent anger passed between Boolean, Nombril and Wissenschlaf. Bob Boolean turned back to Stoma and said:

" I'm sorry. This does come as a surprise, you see. We assumed that after getting his Ph.D., Aleph would have gone somewhere else."

" P.H.D.??! " Stoma snorted , " We've been waiting for his thesis for years so we can dump it in the official crank file !! " Outraged by this new evidence of provincial prejudice against other sciences, and by what appeared to him to be an unrelenting posture of insolence towards a student who'd once distinguished himself as a mathematician and undoubtedly still had a great deal to offer, Boolean sprang out of his chair:

" Where do we find him?" he snapped.

" Oh, he's got a lab somewhere down in the basement. There's lots of junk down there. You'll just have to poke around like we all do."

Apoplectic with rage, Bob led his contingent out of the chairman's office, down the staircase and into the basement. Halfway down the murky corridor, Wiegenlied banged his head against a case of skeletons and passed out. They lay him out on the stone floor and covered him with a blanket. His condition didn't appear to be serious enough to warrant calling in outside assistance. One of the grad students remained behind to watch over him as the others continued on their way.

The heavy rains had engendered an in-house fog throughout the premises . Down in the basement it was thick as melted butter. Bob, Régard and the student meandered about the web of corridors, racing past the lurid squeals and shrieks emerging from private torture chambers, bumping into bottled monstrosities, slipping on

raw tissue and other slops, goaded by the clankings in the overhead pipes that had the effect of a symphony of exploding shrapnel.

In a haphazard fashion they knocked on the doors of various laboratories before stepping inside them. The reception was rarely friendly. Entering the wrong laboratory unintroduced became the prelude to a quarter hour of mutual embarrassment involving elaborate apologies, suspicions questions and hostile commentary before they were allow to extract themselves and continue on to the next one . It would have been worse had Bob not made it clear that he was chairman of Mathematics: under normal circumstances campus security would have been called in to eject this deliberate sabotage of the inexorable advance of biological inquiry. As for the whereabouts of Aleph Cantor's lab, no-one knew where it was located , nor showed any interest in finding out .

Eventually they found someone who told them that Harry Malakoff, up on the third floor, was my only friend in the building. Boolean and Nombril groped their way back out to the elevator, picking up Wiegenlied Wissenschlaf en transit . He'd recovered sufficiently for them to be able to walk him to the elevator, up to the 3rd floor, and into Malakoff's office . With Harry's help, Wiegenlied was laid out on a cot to sleep it off. Harry's reception was cordial :

" Cantor? Cantor? Oh...you mean ' Huxley ' ! " Harry laughed. He'd been calling me by that nick-name for so long

he'd forgotten my real name, "Sure; he's around. I haven't been down to see his lab in 3 years but I can show you how to get there."

Harry sat down in front of his worktable. Brushing away the carcasses of a thousand plant lice, he drew them a diagram.

" Let me see .. I think ...it's ..two turns to the right and one to the left - I'm not sure, it's been such a long time. It's a tiny door without any window . You can't go wrong if you keep a lookout for the stacks of bottles of pickled fetuses. He's right in there between them. "

Harry walked them to the door: " Give Huxley my regards , will you? Funny, I didn't know he had any other friends on campus. His work's not worth a damn, but we get a kick out of shooting the breeze. " Boolean snatched the map out of his hands. Scarcely pausing to say thank-you or good-bye he pushed Régard and the students before him out the door .

Back down in the basement they once again lost their way. Their fundamental mistake was to make a third turn to the right. On an impulse Régard grabbed the doorknob of the office closest to hand and strode - right into the lab of "Dr. Mabuse" ! A single glance encompassed the lay of the land: Régard fainted dead away.

Complementary to the fiendish procession of half a dozen or more dogs suspended on the walls with interconnecting rubber pipes between mouths and

stomachs, now there were flayed dog skins piled up in heaps and draped over chairs and tables. In the time since my visit to him Mabuse had signed contracts with souvenir shops in Atlantic City for lampshades, decks of playing cards, and other items manufactured from his dead animals.

Mabuse must have thought that Régard was already dead; he rushed to the front of the lab and hovered over his prostrate body with a scalpel. Speaking in some strange patois of English, Czech and German he ordered Boolean to drag the body out at once, else he would claim the corpse for purposes of trade. As Bob was too stunned to reply at once, Mabuse began kicking him in the shins.

The two students wrenched the scalpel out of his hands, pushed him into a swivel chair and tied him up with the sections of dog intestine lying about the floor . Then they lugged Nombril's body out into the corridor. There was the familiar procession to the elevator and up to Malakoff's lab. After laying it out alongside Wissenschlaf, Bob left the grad students to attend to the two casualties of war, while he returned to the basement alone. The obsession to find me at any cost had taken total possession of him.

" Cantor!" he muttered, " Aleph McNaughton Cantor! All these years...and it's been Cantor all along...He's have to pay!! .. He'll have to pay !!...Oh, he'll pay all right !! "

Boolean's left knee crashed into a glass case. Like torpedoes thrown out by a sinking submarine, _bottles spilled in all directions. Soon a maelstrom of broken glass and

pickled babies was floating down the corridor on a river of formaldehyde. Boolean's feet squished doggedly through the revolting slime. The knowledge that he was nearing the end of his quest had rendered him insensible to personal comfort. As the groping fingers of his right hand reached out to close around the brass knob of the door to my lab , he slipped on a knotted bundle of umbilical cords and fell into the gook with an enormous splat. My door flew open and I looked up to see my former collaborator, colleague and friend, Dr. Bob Boolean, crawling into the lab.

The only illumination in my compartment was supplied by a brightly burning unshaded lightbulb hanging from the ceiling. The small amount of available space was packed solid from floor to ceiling with boxes holding records, data sheets, notebooks, thousands of typed and handwritten pages, reams of graphs , files, photographs, diagrams: the accumulation of 4 years of patient labor.

As Bob stepped gingerly around my warehouse of boxes he discovered me sitting in a far corner of the room (if a room this small could be said to have a far corner) hunched over the radiator on a high stool, totally absorbed in measuring the size of various sites on the body of a garter snake with a pair of calipers.

Formaldehyde poured in from the corridor in great gouts, dragging in arms, tails, eyes, pieces of marinated baby flesh and other strange vestiges of gut and tissue. All

of my records from the years 1959 to 1961 were thoroughly soaked. It would take me months to separate out the pages and dry them. Had I not rushed to the door and slammed it shut all of my work might well have been ruined.

The rest is quickly told. Boolean turned the university upside-down to get the authorization to move me and my research into the Math-Physics building. Many of the rooms on the top floor were vacant and I was assigned labspace more than half the size of Harry Malakoff's. A special grant from the 1793 Endowment enabled me to buy all the lab equipment I needed. I even had funds and space for housing and caring for the big apes, the gibbons, chimpanzees and orangutans required at this stage in my research.

Of course there had to be a quid pro quo : my part of the bargain was in the form of a solemn promise to produce a recognizable thesis by the end of 1964 , within 15 months on the outside. As Bob frequently reassured me, It didn't matter if the thesis didn't set the world on fire provided it demonstrated the abilities of a competent scientist . Yet the triumvirate of Boolean, Wissenschlaf and Nombril made me understand in no uncertain terms , that if I disappointed Mathematics again I would be hounded out of Zelosophic U., perhaps the whole city of Philadelphia . Taking a page from the way that non-persons were created in the Soviet Union, every record pertaining to my association with Zelosophic, even my very presence on the campus at any time , would

be incinerated. Boolean swore that he would make it his personal commitment to see to it that I never obtain a university teaching position anywhere for the rest of my days.

At the time his threats had little effect on me. Unfortunately he was too busy with administrative duties and preoccupied with his own research to listen with more than half an ear to anything I tried to tell him. Had he bothered to listen, the concrete evidence that I was able to marshal - even at this stage - in defense of my ideas would have convinced him that, in addition to being sensational, my present work would amply justify the faith in my brilliance that had inflamed the department in the late 40's. Indeed, when compared to my present findings, my childhood accomplishments would loom in the world's optic like the charming doodles of kindergarten.

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Chapter 19
Recapitulation

For the next year I was the darling of Zelosophic U. My comeback promised to be as sensational, if not more so, than my arrival 17 years earlier. The event was celebrated at every level of the class structure of the Academy. Persons who had been in the full vigor of youth at the onset of my university career, domestics and janitors for example, buildings and grounds personnel or security guards, drew forth from the storehouses of ancient memory all the Aleph Cantor legends, greatly distorted though undiminished with time, of the '40's .

It was rumored about that Albert Einstein had paid my train fare to Princeton's Institute for Advanced Study, treated me to lunch then consulted me on some mathematical difficulties he was having with his Unified Field Theory; that I'd demonstrated that the moon was going to fly apart in 3 years; that when my predictions didn't pan out I ended up in the nuthouse.

The Felicia Salvador -Frank Kriegle escapade , reworked through a metaphysic of folklore worthy of Vico and Herder, emerged in a form that would have been unrecognizable to its protagonists. Popular tradition now maintained that I'd challenged my rival in love, Frank Kriegle, a brilliant logician 15 years older than I was, to a mathematics duel. He'd been so deeply humiliated by my devastating victory that he'd

left mathematics altogether and given up the girl. What happened to her was never explained.

Certain stories were so fabulous that one could only imagine them invented under the influence of LSD. It was in this way that I learned for the first time that I'd been around the world 3 times; that I'd set up the mathematics program for Indonesia's university system; that I'd burned all the research I'd done since the age of 14 as a protest against the Arms Race; that the doctors at Marigold Meadows had tried to wire me up to their computers to quadruple their calculating power. Others claimed however that I'd never been to a mental hospital: that story had been a cover for two year spent working on secret projects for the Pentagon. Likewise: speculation on my current line of research led to stories every bit as incredible as those about my past.

I could only learn about these rumors third-hand. They seeped out of my laboratory and trickled through the alimentary canals of Zelosophic U. like the juice from a wad of chewing tobacco . It had been observed that I worked in my lab from very early morning until 8 or 9 o'clock at night; in addition the janitors could testify that a few dozen monkeys were held there in cages. With some pardonable exaggeration it was claimed that I put my animals through their paces in weird contraptions of my own design and construction. Also that I'd been overheard talking to them. That much was true: I've always talked to myself, non-stop and at great length. In the neighborhood of my monkeys it

was not surprising that I might incorporate them as members of my audience.

Friends and strangers alike combined these facts to come up with their own astonishing conclusions: that I was training the monkeys to do higher mathematics; that I was trying to accelerate their evolution by subjecting their brains to radioactivity; that I'd developed IQ tests showing that some monkeys were geniuses! The cook at the Student Union cafeteria told everybody that I'd hooked up the monkeys as a computer that functioned through telepathy.

The learned world revealed itself as superstition-prone as the unlettered rabble. Wiegenlied Wissenschlaf whispered to his wife that I was using the monkeys merely as toys, diversions from my feverish intellectual activity. The sadistic experiments I ran on them, he told her, helped me to pass the time while my mind was pre-occupied with real science: Hopf Algebras over prime-dimensional Lie groups!

Wissenschlaf's wife called up the Anti-Vivisection League. A week later one of their investigative teams stormed into my lab without invitation or introduction. They made a thorough inspection; but of course the accusations were groundless. I treated my monkeys better than I did my associates.

That's just one example of the kind of trouble I was running into because of all the crazy rumors being circulated around campus about what I was doing in my lab. In February of 1964 Harry Malakoff stopped over for a visit. He

bore no grudge against me. I can testify that his pleasure at seeing me so well off after years of neglect was sincere . Yet when he returned to Agassiz Hall he went around telling everyone that I was using higher mathematics to prove Creationism, and such nonsense! I never returned to Agassiz Hall. Thanks to Harry's story-telling I doubt they would have left me in through the front door.

Sadly Alter Buba was no longer on campus. One can be certain that he would have continued to carry a torch in my defense. I'm sorry to say that it would only have contributed to the universal misunderstanding. Lots of young talent came pouring into the department from Princeton in the 60's, with brand-new PhD's and brimming with the latest jargon, and he was forced into retirement. After decades of seeing little of the world beyond the inside of a classroom, he decided to spend his final years in a whirlwind of travel. It seems that he was in Hong Kong when
he learned, probably through correspondence with someone in the department, that Aleph McNaughton Cantor was making a comeback. He immediately canceled all of his travel arrangements and took the first available flight back to the States. He arrived in Philadelphia in time to attend my public defense of my thesis on January 17 , 1965, and died the next morning of a heart attack.

Stimulated by the access to better resources my research made rapid progress. In February I made up a pile of all the research journals produced from 1957 to 1961 and

dumped it into the trash. A similar fate awaited everything done after 1962. It surprised me very much to discover that whatever was meaningful in my research had been done in a single year, between 1961 and 1962. After that I was too depressed to realize that I was going around in circles.

The first draft of the thesis was written up in September. From then on it was clear to me that there would be no trouble meeting the December deadline. Just about the time that I was looking for ways of covering the costs of preparing a hundred copies of the thesis, Princeton University Press stepped in with an offer of advance royalties for a book: Two Decades of Scientific Achievement: The Collected Papers of Aleph Randal McNaughton Cantor . It would include my paper on the moons of Jupiter, a small collection of published communications in Number Theory, and the thesis, which I promised to have ready for publication by the summer of '65. The commission for writing the preface had already been handed to Hans Mengenlehre, now finishing up his sentence in a jail in Trenton for embezzling during his tenure as mayor of Montclair, New Jersey. The postscript was handed to Wiegenleid Wissenschlaf. Clearly Dr. Bob Boolean knew how to pull strings when the occasion warranted it.

Entering my dorm room late at night I would often stop to gape, open-mouthed with astonishment into the mirror above the chest of drawers, and shout :

I really am going to get out !!

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Chapter 20
Retrospective

Once installed in my new lab under the auspices of the Mathematics Department I was always at work there by 6 or 7 AM, often earlier. This was in marked contrast to the leisurely pace (slack might be the better word) I'd adopted in my basement lab in Agassiz. Breakfast might be little more than a muffin and coffee, lunch and dinner grabbed on the run. When I finished up, normally around 8 PM, it was with the sense of having accomplished all that could reasonably be expected of me in a single day.

Sometimes - this was generally the case in winter - to fill up the evening I walked the three blocks to the Student Union which stayed open till midnight. There, in a lobby tricked out by interior decorators to evoke the hunting lodge of some Robber Baron, I would sink into myself in one of the oversized torn
dark blue imitation leather easy chairs- sometimes for hours- musing on the strange turns fate had taken with my life. Idly scanning the circumambulant activity, frequently with a wry, knowing shake of the head, I muttered private comments under my breath on the thoughtless antics of youth.

As the sinking sun, bleaching the carbon-saturated horizon to dull cinders, inflamed the dense

and many-layered panoply of putrid smog suffocating the City of Brotherly Love and the nipping twilight settled over the land, I luxuriated in the oceans of warmth wrapping about my weary limbs from the crackling wood fires in the open hearth .

Sometimes I would catch myself humming a few lines from Thomas Moore's "Oft In The Stilly Night"

"...Oft in the Stilly Night
Ere Slumber's chains have bound me
Fond memory brings the light
Of other days around me ..."

or quietly recite the melancholy lines of my favorite Shakespeare sonnet that , like a ghostly sigh, haunted my tired thoughts:

"... That time of year thou mayst in me behold
When yellow leaves, or none, or few do hang
Upon the boughs which shake against the cold.."

In the prestidigitating shapes of shadows thrown against the walls I fancied visitations from numberless images of things long past, of youthful folly and adolescent zeal, of unrealistic hopes, of bold ambitions, of lost loves, of misunderstandings destined never to be resolved !

" ...The hopes, the fears of boyhood years

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The words of love once spoken
The eyes that shone, now dimmed with tears
The youthful hearts now broken ..."

Faces I'd imagined lost forever paraded anew before my internal eye or danced on the manic tips of flame, vivid as flesh and blood, only to vanish at the first touch: Frank Kriegle, Felicia Salvador , Marvin Bench who shot himself in 1962, Fred Elsasser, Jerome Fuzz, Marilyn, Jackie, Rosalyn, George the mad divinity student, Paul the transvestite, Dr. Narasimhan , the malevolent van Clees , Jane (whose last name I could no longer recall , which perhaps I'd never known) who'd made off with my virginity...

...Bare, ruined choirs, where late the sweet birds sang...

17 years! Poised between rejoicing and sadness, my heart filling in equal proportions of contentment and disillusion, the sense that my moorings were slipping away from me was unaccompanied with any presentiment of anxiety or loss. I had to remind myself that the ordeal was not yet over, though already I felt the years leeching out of memory like a toxic sweat, like the dust of old bones sifting through the cracks in a sodden coffin. Much as the narrator in the Fall of the House of

Usher, my soul prepared its flight from the crumbling old mansion, fearful to cast even a glance behind.

Could almost 2 decades, so replete with turmoil, lived at such a pitch of intensity that I doubted a lifetime would be sufficient to assimilate its ramifications, have amounted to no more than the flickering aureole of a grotesque hallucination? Would there be no vestige of their reality remaining beyond the certitude of their unreality? Once more I hummed:

"... like one who stands within
Some banquet hall deserted
Whose lights are fled, and garlands dead
And all but I departed ..."

... I could scarcely believe it possible that Cyrus Yaw-Yawn , now curator of a billionaire's private museum in Arizona, whose prattle I'd endured for over 3 years both before and after my nervous breakdown, could cast a more indistinct image in my memory than the goat in the dream inspired by sleeping through his lectures! Yet at the same time, perhaps for that very reason, I found myself more inclined to forgive them all, even to the extent of fervently wishing that Stannard. dv HM's dream matrix actually existed in one of Everest's "All-possible worlds" . Now Jerome Fuzz possessed no more reality for me than his hypothesis of my innate

criminality. Had my cruel acne been anything more than a cosmic jest? The practical joke of a bored deity determined to rub my nose in the excrement of my own farcical destiny?

A surge of terror akin to panic, like an icy undertow, took possession of me as my reflections turned to plans, or lack thereof, for my immediate future. What was I going to make of my life once irrevocably cast adrift from the moorings of Zelosophic U.? To whom could I turn? To my former teachers? To my colleagues in the scientific world, most of whom had turned their backs on me? To high school friends or old acquaintances from the Agape Institute? Why not even the sad comrades of Marigold Meadows, those still living, or not yet beyond the reach of humankind....?

All these people... crowding impetuously onto the canvas of memory, an inchoate babble as if they'd waited all these long years to make their voices heard. Could I have had so many encounters in the brief confines of one-sixth of a century? What dazzling variety, what a feast for meditation and speculation! Yet so engrossed had I become in my own research that I'd lost all sense of what it was to be a member of the human race. An entire world outside the narrow limits of my daily round, a world filled with ordinary beings, of odd shapes and sizes,

dressed every which way, most of them living happily enough without college degrees or higher education, vigorously hating one another for every perturbation in race, color and creed!

In my imagination I conjured up a visitor from another planet, someone his culture might describe as a sort of entomologist, come to planet Earth to study humanity in its natural habitat. What would he consider the best venue for collecting samples and specimens?

Of course! I cried, thrown agaiust the back of my easy chair by the shock of recognition: a football game! I stood up and stretched my limbs, circling the lobby. It must have been over a decade since I'd been jostled by a Saturday afternoon football mob. What a spectacle that was : a giant stadium filled to the rafters with THOSE people! Vividly I recalled hacking my way through seas of barbarians, beings from that Other World, tramping over and despoiling our campus en route to their crude blood sport, their Roman Coliseum... thousands of ox-like, pennant-waving, popcorn chewing monsters hurling raucous shrieks in the joy of the kill! And their deified heroes, their gladiators, friendly and childish and ignorant, whose parents had paid me well to tutor them in mathematics ....

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I returned to my chair by the fireplace. Friendly faces passed me by, saluting me familiarly as if I were already an "Old Prof", though I was not yet thirty.. all those "preppies", "clubbies", "Main Liners" , "jocks", "Ivy Leaguers" : vapid -faced cherubs of a world order doomed to perish, (as Felicia had explained to me more than once), in the Inferno of the inevitable Marxist revolution, beings wafted about like wisps of straw on the currents of stale air coursing through the hallowed vaults of the Student Union, like streaks of paint across the Emptiness of the World Manifold.

Almost twenty years had passed, yet nothing had changed about them, neither their triviality, nor their monnied callowness, nor their indolence, nor their crass sexuality. All exactly the same: yet how much younger they appeared!

... Yet all this , I sadly reflected, was merely to indulge my tendency to exclude most of the human race from my vision of the world. Humanity didn't stop at the gates of Zelosophic U. ! Furthermore, and this oversight could also be laid to my account, it could not be denied that every member of the so-named "academic community" was a human being!

....Frank Kriegle, Alter Buba, Elijah Prout, Jessica Grogan, Athanasius Claw, Diggory Drybone, Stanislaus Weakbladder, Fred Elsasser, Srinivasa

Narasimhan, Harry Malakoff, Clorinda Wales, "Mabuse". They may have been a little odd, but they were certainly human beings. [34]

... Even I, alone in the basement of Agassiz Hall in my
tiny lab alone with my garter snake, or in the conditioning
wards of Marigold Meadows ...even I was human!

These were the imeless questions: What am I ? Where am I going ? How shall I live?

However sincere my conviction that my current research would perhaps splash a miserable billion or so quanta
across the darkness of mankind's ignorance, I knew full well that it would no difference when it came to answering the really important questions. How arrogant it was of me, Aleph McNaughton Cantor, (born January 18, 1935 (under a pale moon in a sky black with the smoke pouring from a dozen factories , (of a Russian-Jewish father and Scotch-Irish mother, (each of them as meaningless in the great order of things as myself)))) , to proclaim that

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34 **The mortification of being waylaid by a security guard as I left the Math-Physics building late one night, still rankled . He'd obliged me to go with him to the Campus Security office to "verify my claim that I was a bona fide member of the academic community"!**

certain privileged insights had been bestowed upon me with regard to our reasons for being here!

How could 17 years of hanging around a certain citadel of sophistry , either as carnival attraction or butt of ridicule, entitle anyone to tell the human race where to get off? ...

The truth was too appalling to contemplate . Like all other pitiful creatures, I was being whirled around the sun on a brick fragment at 18 miles a second; and did I truly imagine myself the only being upon it with something to say!

To my amazement I realized that I had, drowsing by winter fires in the lobby of Student Union, cogitating like an aged patriarch (who, in imagination, gathers his vanished friends about him to drink at the royal banquet), been afflicted with by a rare sensation of humility.... like the shock of sudden immersion in a bath of vinegar ...

" ...Oh time too swift, oh swiftness never ceasing.... "

A confused welter of memory, confabulating regrets, hopes, anxieties and disillusion assaulted me to vanquish my cherished notions that I was anyone special. Who was this person??! Who was this - Aleph Randal McNaughton Cantor! Cantor Aleph McNaughton Randal ! Randal McNaughton Cantor Aleph! Michael Ranter Caliph McAughten! .....

#454...

No experience had ever humbled me half so much as the discovery that I'd been working in my lab at Agassiz Hall for 5 years - a mere 3 blocks from the Math-Physics building - and yet virtually everyone there was unaware of my existence! How rapid then would be my banishment from history at the final reckoning!

Indeed it was a mystery to me that I didn't just get up and leave. Why not? What was keeping me from heading down to the airport and catching the next plane to the West Coast? Merely to acquire a scrap of paper, some meaningless document written in bad school Latin, testifying that I'd wrested a doctorate from the hard bedrock of my Alma Mater? So that thenceforth and forever more I could by right entitle myself "doctor", a word that appears in every dictionary, and on which no university has ever taken out a copyright!

With the ceremony only a few months away, it was best to stick it out. Perhaps I was unique after all, though only an accidental uniqueness, no more distinguished in that uniqueness than ... than that stuffed moose head above the fireplace! Intrigued by this comic artifact I found myself subjecting it to a close scrutiny. I recoiled: from a branch of a the left antler there dangled a condom, relic of some college prank...

#455...

Everything had changed ... and nothing had changed. Was it possible that one could remain in the same place, year in and year out for decades, and still end up thoroughly lost? Black, sweltering thoughts, long suppressed but very much alive, gushed forth from the hidden resources of my Unconscious. Demons of desire, of unrequited love, the smarts and stings of numberless petty humiliations, swarming like wasps, memories more painful than the experiences that had produced them ....

Why had Felicia shown such little faith in me? .. And Mengenlehre, at the Mathematics Department cocktail party
in 1957, just before he left Academia to go into politics ...why did he refer to me publicly as " our intellectual bum?" ... Why did Elijah Prout single me out as the object of his special hate? Why did my dorm-mates treat me like a kook? ..

And who did Bob Boolean think he was, holding me responsible for the decline of the Mathematics Department?
" To think", he told me, " You've been here all these years and never once thought of your duty to us!" ....

By what right did Dean Hardball lecture me that I was

" wallowing in sloth and mediocrity?" Look at some of the things he wallows in! ....And Fred Elsasser: flunking me because I discovered he read comic books! Where in God's name did he think George Gamov dug up the scenario of the Big Bang! You have to depend on others to define yourself, and there's no defense against someone who holds all the cards. A fraud always has a failure to dump on when he needs to hide his lies .....

Which is why people like Weakbladder .. and Narasimhan ... and, and Kriegle succeed, while people like myself always end up with nothing !

Frank Kriegle indeed ! The burning rage that possessed me once more after so many years threatened to undermine my equilibrium . Frantically I lit up a cigarette; the vice was a recent addition to my problems. If I could only corner Frank Kriegle one more time , just to mash his face in! Break his bones! Burn him at the stake! Hang him on the wall in the company of Mabuse's crucified dogs!

Yet .. how utterly silly! How useless all this bitterness and recrimination! How could any mature person (and I had to recognize that in spite of my best efforts I really was growing up) continue to harbor resentment against the malfortunate Frank Kriegle, that dysfunctional , pitiful psyche, as tragic as any I was destined to encounter in my sojourn on

this blasted planet ! In point of fact I wished him luck, even in his ruined career ... although I saw no career before me either ....

And Felicia ... where was she now? ... Wolfing down bocadillos in a snack bar on the Calle de la Revolucion in the capital of some banana republic? .. Languishing in the Swiss Alps, cuddled in the arms of some world-renowned topologist? .. Sitting in the lobbies of European luxury hotels, picking up rich lovers?.... It scarcely mattered what she was doing: she was now and forever more out of my jurisdiction.

Silently I wept.

So overpowering was my unhappiness that only my utter contempt for the Greek Letter frat house types coming into the lobby prevented me from giving utterance to my grief. Nothing, nothing, I sobbed, could ever recapture the power, the beauty and the suffering of that first passionate love...

Each year I'd awaited the arrival of September, telling myself that she had to be coming back ... Only now, allowing my misery full scope, did I dare to acknowledge to myself that she would never be returning. Perhaps she had left academic life altogether. Perhaps her brief experience with the United States had been so negative that she'd lost all interest in ever coming back to it, even for a visit...

Yet, in point of fact, who was Felicia? By which I meant "My Felicia". Who was "My Felicia"? Nothing more than a name. A name by which to conjure up a barren handful of scarcely remembered qualities and characteristics: her long jet black hair, her way of walking, the wrinkle in her brow which formed when she was thinking about mathematics ... the shape of her breasts, which had once touched off a catastrophe in my youthful brain ... all faded in time and place, all distorted, commingling with other memories and barely recognizable, like the impressions left by pressed flowers between the pages of a century-old book.

Since then her physical charms had been displaced through involvements with other women, among whom half a dozen would be dear to me for all the rest of my days, leaving indelible stains upon my heart , unalterably shaping my vision of humanity and the world.... Yet the quality of mind which I'd encountered in Felicia had never been found in anyone else . Still, I shouldn't kid myself: Felicia's interest for me was not in what she was, nor for anything she had done, but for what, in her absence, she had become.... the shiver of regret that gripped me walking past places where we had been together, where we'd discussed ideas or even held hands ... so many memories buried in the

heart's topsoil, blossoming forth many years later as insights , understanding, ambitions, dreams ... It was not going too far to say that all things good and bad, of the past 15 years had some connection with her ... My spiritual crises... My dissatisfaction with pure or abstract mathematics ... My present research in evolution ... the subsequent love affairs, Platonic or otherwise, in which I seemed always to be searching for the same woman through so many others and so many disappointments ... Whatever tenderness I felt for Zelosophic U. , whatever sweetness or lingering fondness I still imagined to be there could always be traced back to her..... The very name, Zelosophic, recalled Felicia, not the other way around.....

And when, in the coming year when , come what may, it was inevitable that I must bid farewell, perhaps forever, to my native city, drink my last glass of Philadelphia water and fill my lungs with my last gasp of Philadelphia air, quitting the grounds of Zelosophic U. , (rendered more ghastly each year by the erection of another Bauhaus cube, (so that the campus was coming to resemble a stretch of river front warehouses just before the dropping of the bombs)) ... Nothing, nothing at all would remain even of my Felicia, neither in body nor idea nor recollection nor association , nothing beyond the bitter conviction that Mankind is doomed to effect its stay on earth surrounded by inexorable

injustice, an injustice rooted in the very conditions of its existence.....

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Chapter 21
Homecoming

During the winter break of 1964-65 I closed down my rooms in the graduate dorms and moved back to my parents' house in the suburbs. A long and difficult process of reconciliation had eased relations between us. Now they felt comfortable with having me at home for a few months, while I re-established myself in a professional career. Mom promised to treat me like an adult and Dad agreed to stop brow-beating me about how much good money was being wasted on me. These commitments weren't intended to be taken seriously, but they did mean something as gestures.

I'd already been engaged to teach mathematics at Colorado University's Metro campus in downtown Denver. The post was temporary, not tenure track, as it was expected that I would start looking immediately for something better. If Aleph McNaughton Cantor was anywhere near as good as the claims being made about him, he would be setting his sights for a research fellowship with the Biomathematics Group at the University of Ann Arbor, or senior researcher in the Theoretical Biology and Biophysics division at Los Alamos. Applications and letters of inquiry had already been sent out to similar programs at UCLA and the University of Texas.

Graduation ceremonies for the class of '64 were scheduled for the end of January, 1965. Given the novelty of

my academic situation there would also be a public defense of my doctoral dissertation on January 17th. Initially it was planned that my lecture would be held in the same auditorium where I'd defended my research on the moons of Jupiter back in 1948. The earlier talk however had been a relatively private affair, its audience self-selected by virtue of its subject matter. Most of its the participants had been mathematicians, or astronomers and physicists familiar with higher mathematical methods. The volume of inquiries coming in over the telephone or through the mail indicated that this time the attendance to would be in the hundreds. Its venue was accordingly moved to one of the large auditoriums in the campus theater complex . With a seating capacity of over 500, a balcony that could be opened to hold another hundred, and a comparable amount of standing room, as many as 700 persons could be accommodated.

With my sister and two brothers out of the house, there was room enough at first for my parents and myself to move about in it without getting in each other's hair. Then my sister Agatha and her husband arrived around the 7th of January, while her twin brother came in from Dallas on the day of my talk.

Agatha Cantor- Dunlap, 24, was working as an administrative secretary at Bentley Business College in Boston. Ralph Dunlap, her husband, was an insurance agent. Two years out of high school my other brother, Knut, had organized his own rock band. He was traveling the basic

circuit through Kentucky and Tennessee and would not be able to make it to my lecture.

The day after the arrival of the Dunlaps I received a letter from the Office of the President. In it President Jameson Hardball announced that, at a special session of the Academic Advisory Committee it had been decided that I should be granted my Ph.D. immediately, without waiting for the public defense of my thesis. The lecture was still scheduled as planned, but could be looked upon as a mere formality. The vote had been unanimous: it was the very least that Zelosophic U. could do to rectify the long history of misunderstandings between us, etc., etc. I, or anyone from the family was encouraged to come into the President's Office in College Hall to pick up my diploma at our earliest convenience.

I passed the letter along to my mother at the breakfast table. As she read it aloud she became hysterical with excitement. The rest of the meal was forgotten as she ran up to the attic and dug out an old hat from a trunk that hadn't been opened since her wedding. From the moment she came back downstairs she bullied all of us, Dad, myself, Agatha and Ralph, to hurry up and get ready to go downtown. Then she regimented the lot of us out the door.

After stuffing Aga, her husband and myself between them in the back of the car she got in behind the steering wheel with Dad on her right. In a flash we were tearing down

the 20 miles of highway that separated us from Philadelphia's city limits.

It's dangerous to be in a car with Mom behind the wheel; at that time more than ever, given the state she was in. It was with some relief to the rest of us that she soon turned the driving over to Dad, leaving herself free to fuss over me. My Dad is a very good driver, one of the advantages of never allowing anything to upset his equilibrium.

Over and over again like a Hari Krishna mantra, Mom kept calling me her "little doctor". Reaching into the back seat she tickled me under the chin as she used to do when I was three and planted a big smooch on my nose. Playfully Aga passed her right hand through my hair. Ralph used his long waxey fingers to stroke the backs of my hands as he whispered : "You've made it, chum. You've really made it." Ralph was of a cadaverous cast with pale complexion, spoke little and thought less, and he soon fell back into that state of morose brooding for which Aga had probably married him.

Mom took out a comb and parted my hair:

" You know, Aleph: maybe you need a haircut before going to the President's Office! It wouldn't look good in front of all them officials if you came in asking for your diploma without a good haircut."

With her free hand she vigorously brushed down my suit jacket, " I don't think you remember, Aleph, you must have been too young, but when you were 8 we used to take

you to the Aygap school ! It was a special school just for bright boys! Why, even then they thought you were smart! It had a director whose name is -Krumpelhauer? Pumperknickel? I don't remember, although I did copy out his name from an old address book and sent him an invitation through Haverford College, to attend your lecture!

" Well, that Mister Pumperknickel wrote me back the nicest letter you can imagine, saying you was the brightest kid in the whole school! I'm sure he says that to all us mothers, but it made me so proud of you!

" I can't begin to imagine all the people who are going to show up. And you can bet that Professor Mengeleary is going to be there! He must have been born in a pigsty! He seemed to think you was so wonderful, like a wizard at mathematics! Then you disappointed everyone, because I knew all along that you weren't anything special , only that you were clever enough to pull the wool over everybody's eyes!

"But now you're a doctor: Aleph, my son the doctor! Hey, Abe! Did you hear that : Aleph, my son the doctor!! "Mom slammed him on the right shoulder.

" I'm listening! I'm listening! " The car swerved within a few inches of flying off the highway.

" No, you ain't listening! Aleph my son the doctor ! " she shouted with gusto in his right ear. Once more she turned back to me:

" Now you'll be able to get a job at a good college, I read in the papers they need algebra teachers in them places . After that you can settle down. Now Aleph, I never expect you to show any consideration for your own mother and father, but you have to promise you'll let us visit you when the baby is born! Aleph, do you hear me? You got to make me a grandmar'm, because you're my oldest and favorite!"

It was the first time I've heard her express anything remotely resembling such sentiments in 30 years. Dad chimed in:

" Aleph! Make sure you marry a good Jewish girl! Don't go fooling around with shikses ! "

Mom landed him a clout on the head that once more sent the car spinning all over the highway.

" Of all the nerve! And what d'ya think he's been married to all these years?? Ain't I one of them shakses ? Hm! My father never trusted Jews. He never met one before Abe showed up, but he knew a thing or two. He was a stinking drunk with less education than a sewer rat, but he wasn't no dumb bell."

The car had veered back into a stable trajectory. I begged Mom and Dad not to quarrel at a moment like this one, the culmination of 17 years of struggle and desperation . Mom stopped talking, though she continued to sulk peevishly in a corner of her seat. Aga tried to take some of the pressure off me:

" We're all very proud of you, Aleph." Her crystal-blue eyes gazed up at me , every bit the younger sister awestruck by her brother's accomplishments. What conversation there was for the rest of the trip consisted of Ralph's monotonous sales-pitch as he tried to unload insurance on us at bargain prices.

The car pulled up before the door of one of the three barber shops adjacent to the campus. Mom hustled me into the shop and plumped me into a vacant chair. Throughout the ritual circumcision she kept up a continuous stream of chatter. I knew the barber very well. He could out-talk the best of them but bowed out for the occasion before superior competition:

" Don't take too much off the top; he's lost enough up there. I want you to get all that stuff in the back" - one might think that it was she who was getting the haircut - "we don't want him people mistaking him for like some kind of beatnik, God forbid!

" Aleph, do you know something ? You're losing your hair! It doesn't look so bad, because you're a doctor now. You ought to look more distinguished. Although it's a darn shame , if you ask me , that you ain't got a girl yet. Aleph, listen to me - I'm your mother - Once you've got the marriage license and there's some kids on the way , go ahead! You can lose all the hair you want!

" I know what I'm talking about; life's taught me lots of hard lessons. Why - look at Abe! Who would have believed

it that Abe would turn into this awful thing! He was sensible. He really was; and crafty too. He married me when he was still handsome. I mean, he never was handsome really, but at least he didn't look like something the dog brought in after the rain! Opportunity only knocks once , Aleph! I would'uh been an old maid all my life if Abe hadn't married me when he did.

" Being married didn't make me happy. Happiness don't exist Aleph, you get what you can out of life and hang the rest! But at least I ain't abnormal, like them spinsters sittin' in the kitchen in every other house in Freewash...."

She jumped up and barked at the barber: "Hey! Take off them sideburns! He may be Jewish but he don't have to advertise it! Aleph we've planned a little party for you after you give that lecture. Invite anybody you want . Well, I'm not sure I want that Mengeleary person there. We asked all the neighbors. The Wilsons, you know them, down the block, they promised to bring along their 19 year old daughter, Judy. She's a real sweetheart, Aleph ! I know you don't know nothin' about girls, Aleph, but at least you can be nice.

" Aleph, please don't make your talk too long - okay? We got to get you back to the house on time! Why , you're the guest of honor! Surprise ! - I got you a new suit, you can throw away the old bag you're wearing. Anyway you got to wear one of them medical doctor smocks over your new suit. You don't want it all covered with chalk..."

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With Mom nagging him all the way to the end the barber finished the job. With some reluctance Dad paid the bill; it wasn't his hair that was being cut. Then we all got back in the car again to drive the remaining three blocks to the Zelosophic campus.

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Chapter 22
Tempest in a teapot

As the family walked through the swinging glass doors of the President's Office on the 3rd floor of College Hall, stirring rounds of applause erupted from secretaries, clerks and other minor administrators, about two dozen in all. Doris, President Hardball's private secretary, went into his office to let him know we'd arrived. Very soon afterwards he emerged and came forward to greet us.

Over the years of his ascension from Provost to President, Jameson Hardball had become sleek , his jowls more pronounced and his glasses thicker. He'd never had much hair, now he had none. Deep-seated concern furrowed his brow like the ripples in raked topsoil, but that came with the territory. His face beamed approval like a lighthouse beacon cutting through pea soup fog. He wanted me to think that he'd known all along that I would make the grade. I've no doubt he was preparing himself mentally to eliminate all the derogatory comments he'd written on my Undergraduate Transcript. Like an obstetrician announcing the birth of twins he strode across the floor, gripped me by the shoulders and planted a wet kiss on both cheeks.

"Aleph!", he cried " I swear you haven't changed a day!" My right hand was crushed in a cruel vice.

Mom burst into tears. Hardball motioned to his staff and a chair appeared. At first Mom made a show of not wanting to sit in it:

" No ... No ... " she reached around desperately; someone produced a box of Kleenex: "I been sittin' all day.. No, I really prefer to stand .. my son don't want me to sit down .. Well, okay". By the simplest of means she'd succeeded in getting everyone's attention away from me and onto herself. Aga and Ralph took chairs against the wall, while Dad paced about, restless and annoyed. Glowering with benevolence President Hardball, held Mom's right hand in his like a pearl contained between the two valves of an oyster's shell:

" This must be a wonderful moment for you, Mrs. Cantor."

" Oh, it is ...! It is! Tell me", she asked, regaining her composure and pulling herself erect against the back of the chair: " What's it made of?"

Hardball's face fell, his jowls dropping like the ears of a basset hound: " What's it made of? What are you talking about, Mrs. Cantor? "

" That diploma. Will I be able to frame it? Abe's - he's my husband - ", she indicated Dad in the corner, " Abe keeps his in a strongbox in his study . Maybe I should put it in a dry place. Will the moths eat it, do you think ? Is there some kind of stuff I can rub into it to protect it? Do they really make them of sheep's skins? Abe's diploma is just a piece of paper from some little engineering college, but Aleph's - Aleph has a doctor's degree from a big university!

Say: maybe we ought to get some insurance! What kinda insurance should we take out, d'ya think?"

" Well .. Mrs. Cantor. Ahem!!" Jameson Hardball cleared his throat, his hands still recumbent and limp over Mom's:

" The diploma is, after all, just a document. It is not so important for what it is as for what it represents: Aleph's successful completion of his program of graduate study at one of America's most prestigious and venerable institutions of higher learning! Why, Mrs. Cantor : if he loses it, we'll just give him another one!"

" Uh -huh!", Mom snapped , " Just like I lose a thousand bucks I can go to the bank and get it all back again! "

" No, Mrs. Cantor. It doesn't quite work the same way." Taken aback, Hardball was reduced to stammering : "Perhaps I ought to show it to you." He disengaged himself to quickly hurry across the room and disappear into his office. My mother continued to carp, raising the tone of her voice. She was furious:

" What does he mean, it ain't important? My son slaved like a dirty dog for twenty years to get that shingle! Nobody's going to tell me it ain't money in the bank! Why don't you ask Abe to drop his paycheck on the street, so's every Tom, Dick and Harry can cash in on it? I'm a coal-miner's daughter. The people I come from don't know nothin'! Half of them can't even sign their names, let alone read a book! But you don't need to be a high-educated

professor to know that nowadays the Ph.D. diploma is your Meal Ticket if you don't want to be a bum all your life!

" Ask Abe! Abe knows! Abe's got less man in him than anyone I've ever met, but that engineer's degree of his is been bringin' home the bacon for more'n 30 years! Like I said: I wasn't born yesterday! I ain't giving Aleph's diploma to some dishwasher as a Christmas present! It's stayin' in the house, under lock and key. And if somebody wants to see it he can make a damn appointment!

" Hey, you'd think there was doctors hanging out on every bush and tree! I came here to get that diploma and I'm not leaving until I get it! Ain't that right, Abe? Abe? Abe? "

She looked wildly around. Someone went to look for him, then came back soon afterwards to say he'd stepped out for a walk.

"Well!", Mom huffed, "I never expected to hear that. A new diploma , my eye!"

President Hardball whirled out of his office, flustered and dripping sweat. His hands were empty:

"Where is it? " he gasped : "I can't find it anywhere !" He turned to his secretary:" Doris, have you seen Aleph's diploma? "

"Sure , sure - see what I mean ?" My mother's triumph was complete. One could imagine she was actually happy to learn that the diploma couldn't be found. Under Hardball's direction the staff turned both the inner and outer rooms of the office upside down. Within a short time a chaos of files

and papers lay across 5 desks. Trash cans were emptied out onto the floor as some of the clerks got down on all fours to pick through the rubbish.

" Mrs. Cantor", President Hardball seemed utterly shattered. He'd removed his jacket and his shirt-sleeves were rolled up. " Mrs. Cantor , there's been some mistake, but honestly there's no cause for alarm."

" You're telling me there ain't !" She stood up, trembling in every muscle , " I've a mind to take this to the police!"

" Mrs. Cantor - that's utterly ridiculous! Your son's graduated! He's already a doctor! I assure you, the diploma's only a formality."

" So , now it's a formality, is it? " She was shouting, almost screaming , though I'm sure she didn't realize it:

" Now you listen to me, Mr. Hardballs! There's something at the bottom of this! I wouldn't be surprised to learn there was some political shenanigans goin' on behind my back. Twenty years! Poor little Aleph sweated for twenty years so you could give his diploma to some God-damned no-good nephew of yours!

" I heard of worse things in my day! It ain't the first time my unhappy son's been shoved up the ass by you people. " Mom only swore when she was worked up: " Years ago you tried to stop him from getting that Bachelor's degree by locking him up in the nuthouse! It's the same stunt all over again. Like I keep sayin', I wasn't born yesterday. Shit! I'm

gettin' myself a lawyer, Mr. Hardballs: we'll see if Aleph ain't gettin' that diploma or what!"

Closing her ears to President Jameson Hardball's useless pleading she rounded up the gang and rushed us out the door.

Early the next morning I left the house, boarded a bus and went into town alone. President Hardball and I conferred in private. Evidently the diploma had been misplaced; it was bound to turn up before the day was over. He promised me that in case it were really lost he would contact the Printing Office to have a new one made up in time for my public lecture. That was okay by me, but I wasn't sure it would satisfy my mother. Finally we worked out a solution. Hardball agreed to be standing at the main door to the Kresge theater building on the afternoon of my lecture, so that he could personally hand the diploma over to Mom as she went in.

The better part of two weeks was needed to persuade Mom that the university was not trying to pull a fast one . To a certain extent she was play-acting. Eventually she relented and she agreed to put aside her suspicions, save in one particular: both before and during the lecture there would be a lawyer at her side, just to guard against any last minute funny business.

Chapter 23
Penultimate Wrap-Up

Future biographers, if there are to be any, may well concur that January 17th, 1965 was the busiest day of my entire life. Dad and I left the house at 3 A.M.; I had just time to grab a sandwich on the run. He drove me to the 69th Street Station situated at Philadelphia's city limits just after Upper Darby. From here the elevated trains begin running at 5. By 6 AM I was up in my lab on the 7th floor of the Math-Physics building, working away .

My inventions had all been packed up in boxes and crates over the previous week, preparatory to their being transported down to the basement. All the patents on them belonged to Zelosophic U. , yet until such time as someone else showed an interest in Evolutionary Ethics they were mine for the using. Eventually they would be shipped out to wherever I happened to end up . After 4 hours of labor the lab was cleaned out and ready for its next crop of aliens.

Then my monkeys had to be fed and their cages cleaned, after which the maintenance staff and I worked out the details of having them transported across campus on dollies to the Woolworth theater complex in time for my lecture at 5. Arrangements had already been worked out to divide them up afterwards between Agassiz Hall and the Philadelphia Zoo.

In no time at all it was 12 Noon. Soon afterwards visitors began arriving. The first to pass by with his

congratulations was Régard Nombril. He was very apologetic about not being able to attend my talk.

Together we walked over to the Campus Deli, where he insisted on buying me lunch. He also offered to drive me over to Kresge at 4 before heading off to Madison, Wisconsin to present a paper at a conference.

He was anxious to learn more about my work, and I promised to send him reprints of my up-coming articles in Biomathematical Transactions, a journal that had just started up at Union College in Schenectady. Unfortunately the journal never came out with a second issue; I disclaim any responsibility for its demise. There are probably a few copies of my first article still buried in boxes somewhere. Anyone who's really interested can come and help me dig one out.

Then Régard walked me back to Math-Physics. I continued alone up to the 7th floor, while he returned to the Mathematics department on the 6th. [35]

Soon after I re-entered the lab Dr. Alter Buba, all 82 years of him, came tottering through the door. He looked as if he were searching for one good thing to remember about this world before leaving it. Was Aleph Cantor to be that

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35**Drifting around the university system one eventually realizes that the Mathematics Departments are almost always on the upper floors, while things like Physics, Chemistry, Anthropology, etc., fill up the lower ones. The reasons are simple : for most of the time physicists have their feet on the ground while mathematicians have their heads in the clouds.**

entity? He took my face between his hands and rocked it back and forth:

"Oi , Aleph, Aleph! Vat did I tell zem? Zet peck of chazers ! Ha!! Kesshus Klay - he ain't zee greatest - you are zee greatest !" And he laughed, like the elderly lamed vov that I suspected him of secretly being.

An unexpected visit came from Betty. She was on the staff of the library in the Business Administration building. We'd been out on a few dates, from which we were able to gather that there weren't many things of mutual interest between us. I was therefore all the more surprised when she announced that she was " all broken up" by my sudden "success". For about an hour while I was showing the janitors how to move the caged monkeys to the elevators, she moped about the lab trying to work in a proposal of marriage. I think she was sincere in her affection for me, yet her opportunism was just a trifle too blatant. Even had this not been the case the sad truth was that I simply wasn't interested. I'm still not interested. What attractions could marriage have held for someone only a few hours away from freedom? And Betty was hardly the person to exert enough counter-vailing influence to alter my opinions. Her only selling point was her unhappiness, but I was too eager to get on with my life to waste time being embarrassed by it. Paraphrasing Henry David Thoreau, most people live lives of quiet desperation, a few manage to graduate to some

form of noisy desperation, but neither class is much fun to be around for long. She finally gave up and left.

At around 2:30 PM Mom showed up with my brother Sam and his fiancée. She'd just come from picking them up at the Greyhound bus terminal at 13th and Market. Sam and I had made life miserable for each another all through childhood, but a decade of separation had softened our hostility. That his job, as dull as his lifestyle and personality, and as devoid of intellectual activity, left him well provided for, gave me nothing but satisfaction. Parenthetically this is the only kind of person likely to find any real happiness in this world. In a few minutes Sam and his fiancée went out to get coffee and snacks for everybody.

Free to indulge her vices unwitnessed, Mom beleaguered me for the next half hour with a non-stop stream of gibberish, combining
threats, orders, recriminations, regrets, fears, pet peeves, prejudices and superstitions, and a core residue of affectionate concern. When Sam returned we sat around for about 10 minutes, before I had to insist that they leave. We would all be getting together in a few hours at the theater.

Alone at last I strode up to a body-length mirror in the bathroom in the corridor and took stock of my appearance. Like the refined dandy I could never allow myself to be at any other time, I carefully examined and groomed my dress suit and tie before putting them on. Over them I placed a

smock put aside for this occasion that had never been used in the lab.

What a pity! I thought as I looked at myself in the mirror: taking the time to grow a goatee might have added some luster to my distinction. It would have risked giving Mom a heart attack , yet no more than any other sign if independence.

I might have modeled my appearance after Henri Poincaré. Those old daguerreotypes of him achieve an expressive depth rarely present in modern photography . The eyes, for one thing: the way their power hits the thick lenses of his spectacles like bullets off shatterproof glass! The straggly beard, the distracted manner, the unkempt air totally offset by the gentlemanly bearing! His was a kindred soul. Any mathematician worthy of the name ought to emulate him.

I continued to study myself in the mirror. For this occasion my appearance would count for a great deal, although part of the effect of that appearance would lie in my ability to convey the impression that appearance was of no importance. I experimented with various effects, pushing my spectacles this way and that on the side of my nose. The eyes needed to appear inscrutable, concealing depths of thought.

Don't use the index finger as a blackboard pointer: it smacks of pedantry. Wave the hands about in suggestive directions, maintain the simulacrum of profundity. Project

the image of an intellect not afraid to tussle with the universe and get the shit kicked out of it. Don't kid yourself: science is a blood sport. The audience has to be made to realize that anyone who presumes to tackle the History of Biological Cosmology isn't going to be pushed about by the likes of them!

My natural absent-mindedness was a good beginning. Picture it as something like the dense cloud of smoke generated by a burning trash heap, pierced through with startling insights like random sparks. Avoid showing too much confidence (arrogance) and too little (timidity) . Keep to a strict time-table, play it by ear, never let them catch you off guard. Marshal insights, speculations, hypotheses, findings to build slowly, though without tediousness, to a super crescendo of revelation.

In the ultimate balance only the worth of my ideas would count.

Yet beyond the level of a junior high school science fair, science is much more than a barren display of mere factual knowledge! In dealing with subjects of this magnitude - the gradient of Evolution, the algebraic structure of the tree of life, the fate of the species - it will be the larger implications which matter the most.

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Chapter 24
Between the Event Horizon and the Big Crunch

The time for further procrastination was past. It was almost 3:30 PM. Even now Régard Nombril might be pacing back and forth, waiting for me in the lobby on the ground floor. With a final run-through at the mirror I was as ready as I would ever be.

Bob Boolean met me on the elevator going down. Once we discovered that Régard was not in the lobby he invited me to take a drink with him in his office on the 5th floor.

" What'll it be?"

" Scotch - on the rocks. Make it a double." Boolean chuckled.

" It won't be as bad as all that."

He made up our drinks at a little side-table and placed them in coasters on his desk, incidentally the same one behind which Hans Mengenlehre had suffered a catatonic fit in 1949. Despite a painfully forced "hail-fellow-well-met" manner, Bob obviously had other things in mind. After he returned to sitting in his polished mahogany swivel chair Bob placed his forearms on the green ink blotter. Suddenly he leaned his entire weight forward to glare at me with the full malevolence of a very hungry Bengal tiger!

It was a sad object lesson in what I wanted to avoid, to see what 20 years had done to Bob Boolean. A slow, irrevocable process of erosion had leveled out the distinguishing features on his face, balding head and plump

body. No longer was he the star-struck , naive yet forthright graduate student who'd stood up for me against the rest of the faculty on the occasion of my coming-out party in the graduate lounge in 1948. His eyes, which once had sizzled with the feverish light of intellectual passion, were misted over now by boredom, confusion, the tedium of the daily grind, and the heavy toll of frustrated opportunism.

He'd known for a decade that he'd lost out on his chances of being cited in future encyclopedias of science as "the leading figure in the Zelosophic Circle of 20th century mathematics". [36] Chairman of the mathematics department of a major university at the young age of 38, bringing in, (at 60's purchasing power) , 50 grand a year, these and similar achievements were not sufficient in themselves to satisfy him, mere sops to his vanity and pride. His comportment was that of a man 20 years older than himself, someone for whom the future offered no prospects, no surprise, no promise.

However we still liked each other. I could excuse his goading manner towards me, a mixture of bullying and deference, on the grounds that his really original work in Complex Variables had all been done in the 50's. He still did interesting research. Unfortunately Bob was the recognizable representative of a certain class of scientist who believes

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36Nor was there much chance that he might deserve mention in a footnote stating something like: " Robert Boolean (no relation to the English logician of approximately the same name) " . This may in fact be the only such footnote in existence

that anyone not chosen to become a paradigm should not have wasted the time of the human race with the accident of his birth. The feeling is usually, though not always, shared by the paradigms themselves.

Wiping his glasses with a handkerchief, Bob sized me up with distrust:

"Well, Aleph ! Congratulations. You're not going to let us down again, are you?"

I sipped my double Scotch and said nothing.

"I hope not ... for your sake. So!" he cried, changing the subject : " I hear you're off to Colorado. What's after that ?"

I told him about my other prospects.

" I suggest UCLA. There's lots of money in the University of California system, and its prestige has grown enormously since the war. Thank Oppenheimer for that much. Then there's Stanford, Cal Tech - and you can't knock the weather... " Once more he abruptly reversed direction:

" I know you're not going to let us down again .... isn't that so, Aleph?" I wasn't sure how to reply, but he cut me off:

" No, of course you're not. My idea of a joke. Hah! " , there was little humor in his guffaw, "I trust you, Aleph. You must have noticed that I've had enough trust in you not to interfere in your research in any way over the last 6 months. I don't even want to know what it's about."

Once again I started to say something, once again he stopped me:

" Aleph, I've known you on and off for almost 20 years. You've got a good mind. I'm not being condescending. The department awards a dozen
Ph.D. 's each year, and most of them aren't worth a damn. Very few of our graduates are going to produce a "moons of Jupiter" even by the age of 60! I've got no reason to question the value of your work. I know damn well it's going to be good..."

Bob was peering out the window. Suddenly he turned about to face me. He walked over to my chair with a military stride until he stood a few inches away from me. Then he bent down menacingly and whispered
in my ear:

" Isn't that right , Aleph ? " Fear surged up along my spine like the touch of a fine razor. I nodded my head and said nothing.

"Well" - Bob looked at his watch with deliberate solemnity - " It's getting to be that time, isn't it? You'd better go down ahead of me. I'll be along soon. "

I stood up, relieved , yet also a bit sad, that the interview was over. We shook hands.

" For old time's sake." I said

" Oh yes!" Once again there was something unnatural in his laugh : "For old times sake. Right on Aleph!"

As I walked out of his office and down the corridor to the elevator I'd the impression that his eyes were continuing

to hold me in a firm grip, determined to the very end to terrify me of the consequences of bolloxing up the works.

What are you worried about, Bob? I thought to myself as I descended in the elevator: I really do know what I'm doing!

Régard Nombril met me in the lobby and drove me to the Woolworth Theater Complex at the other end of the campus. Hastily constructed in 1961 it conjures up the bunkers of the Maginot Line. 4 buildings holding 6 auditoriums sit uncomfortably on a broad stone dais shaped like an inverted Frisbee, interconnected by concrete ramps which, in less than 5 years had deteriorated through cracks, buckling and other results of quite ordinary natural phenomena.

The auditorium in which my lecture was being held was in the Kresge building. It was called in fact "Kresge auditorium" although there was a smaller more intimate auditorium in the same building, known as the "Actor's Studio ", on a lower level. It being opening night for a new production of Gorki's "Lower Depths", an agreement had been reached with the Drama department that we would all be out of the building by 7 at the latest. Had I been more prescient I might have canceled the lecture to attend the play, but that's not the way things happened.

When I got there at 4:15 , the Kresge auditorium was rapidly filling up. Functionally designed for the multiple uses of a university, the stage had been ingeniously constructed

to serve the twin objectives of theatrical performances and lectures. For this occasion the orchestra pit had been raised so that the speaker would be at the level of the first row of seats. The rows themselves rise steeply in tiers , in the manner of a Greek amphitheater, to fill out a shape somewhat like the hood of an inflamed cobra.

Two large blackboards had been lowered from the ceiling on metal cords, and were stationed to the left and right of the audience, with an empty space between them through one could see the proscenium arch of the curtained stage. Spotlights had been trained directly on their green-slated faces and on the podium in the center. . There was a gap between them through which the curtained was visible.

When I entered the building I went immediately to the sub-basement to confer with the maintenance crew and staff guarding the animal cages. Then I walked up through a staircase at the back onto the stage and up to the wine-soaked velvet curtains. There I stationed myself at a place from which I could inspect the audience without being seen. It was important for me to have some idea of the proportions and make-up of the crowd of spectators, Already I could see that it was divided recognizably between the scholarly community, family members and the general public. Anything might happen and I needed to be prepared.

It was almost 5, most of the seats were occupied and yet people continued to arrive. The balcony had to be made

available, while about 40 persons remained standing at the back.

After an initial gasp I began to sweat: the dreadful suspicion that Mom had gone completely mad had to be allowed as a hypothesis. The size and makeup of the audience indicated that she'd sent out invitations to everyone on the planet with any conceivable connection to us.

The first 3 rows at the ground level, each of them holding about 18n seats, were occupied almost entirely by relics. A shudder went through me when I recognized Dr. Baumknuppel. He'd been flown in for this special occasion from the Home for the Aged and Infirm in Harrisburg, PA . In back of him sat the attendant who had directed his wheelchair down to the front of the auditorium. I would have to look at Baumknuppel's face, only a few feet away from the podium, for the better part of my talk.

For a decade or more Altzheimer's Disease had established hegemony over his mind. His dried up, bony and desiccated skull gave off a musty smell of rotting intellect, his tongue hanging out loose and head tottering from side to side. At rare moments a wisp of a thought , indecent or otherwise, could be seen emerging from the miasma of darkness, stagnation and confusion that surrounded him. Responding to an inner music, lips and fingers sketched fragments of gestures which, in his prime, would have been certifiably obscene.

Sitting a few seats to his right I recognized Fraulein Zwicky: prim, repressed , sweet as sugar and, as ever, unbelievably unhappy . It surprised me to reflect that she had to be in her early 50's . As a child I'd pictured her as an elderly maiden aunt. Apparently she'd adapted herself to that stereotype early on in life.

Up on the 3rd row I made out the jolly figure of Dr. Alter Buba. He leaned on his cane, playfully shaking his head, a gentle soul.

On the 2nd row were all my English teachers: Phillip Grimbulge, Jessica Grogan, Athanasius Claw, Tobias Stump, Diggory Dribone. All very much alive, banded against me in common hatred, though I'm certain not a one of them could remember why. Grimbulge was reading aloud from the sonnets of Shakespeare. At odd moments Athanasius Claw could be overheard to sigh in sympathetic rapture.

Later I learned that Mom has also invited Cyrus Yaw-Yawn. I suspect that his inability to connect me with someone or something in his past had persuaded him that there was no point in flying from Phoenix to Philadelphia to attend my lecture. However his mother, who had from time immemorial been on Zelosophic's Board of Trustees and kept up with the latest gossip, knew everything there was to know about me. The limousine transporting her from Radnor out on the Main Line had delivered her to Kresge in plenty of time to take up a commanding position on the second row, a few seats above Baumknuppel to my right . Over 90 years

her stature as indomitable battle-ax had swollen to epic proportions ; Beowulf himself would have been proud to wield her. Although her eyes were covered with cataracts her rasping voice had defied age. She sat, poised on the narrow vertical of her spine , veritably a queen-mother, her oozing flesh dripping in grey gouts like hocks of moldering ham suspended from hooks in a butcher shop.

Depressing as the circumstance might be, it came as no surprise to me to find Mabuse sitting on the front row, far over to the left in roughly the same spot he normally assumed in the auditorium at Agassiz Hall.

Next to him sat Clorinda Wales, his soul-mate in crime. His legs were jerking back and forth in perpetual clonic motion and he scratched his chin and cheeks with malicious anticipation.

Beyond the third row, the next half dozen were completely filled with relations and friends of the family. Lord gracious, how many relatives I had! Mom must have dug them up from all over the country, with perhaps a few imported from Russia and Ireland! On my father's side there were Cantors, Simonses, Goldbergs, and Karzinskis. Julius Karzinski was there among them. He was about my age and had been a good friend to me while I was in high school.

About 2 dozen Wadleighs were in attendance , the only other clan of goyim to marry into the Cantor line. Sylvia Wadleigh was sitting next to her husband, Dad's cousin, Mordecai Cantor. Surrounding them like so many bees

swarmed a score of children, smacking bubble gum, sucking on lollipops and ice-cream cones , bolting down popcorn. From what I know of my Mom, she must have told them they were going to see a movie.

The samplings from my mother's family included Higginses, Kellys, Clancys, O'Rourkes and other folks from the coal-mining districts of northeastern Pennsylvania. They stood in strange contrast to the rest of the audience. They were coarse and rowdy, of a rough, mottled appearance, and there was no humbug to them. Rather they inserted their own forms of humbug , which I found refreshing. Wouldn't it be nice, I mused, to be able to go up and sit next to them? Alas , it was 30 years to late for that . They also were immersed in a sea of squalling brats, carrying on with great lustiness.

My heart sank. I crossed the stage, exited out the back and walked through the corridors and up via a private stairwell to the control room in a cage directly beneath the balcony. After consultation with the technicians it was decided that the volume in the loudspeakers would be turned up for my speech. It simply wasn't fair that the launching of my career should weigh in the balance of a hundred screaming kids.

Returning to the stage I continued my inspection of the crowds. By a species of magnetic attraction my eyes were drawn to The Family Group : Mom and Dad, Ralph and Aga, Sam with his fiancée and 3 next door neighbors. Like a Doré

engraving of the Good Ship Victory ploughing its way through the oceans of the damned they sat together as a single body, smug, erect, proud, all preened and polished like baskets of fruit on display in a gourmet delicatessen.

However they were not, in the conglomerate, solidly homogeneous. Directly to Mom's left sat President Hardball and I noticed there was an unfamiliar male to her right. By his professional attire I knew he had to be Mom's lawyer. For the moment, events appeared to have rendered his presence superfluous. Glowing with pride, tears gushing copiously, Mom clutched my diploma so tightly to her breast that one could have imagined she was going to wipe her ass with it. I tilted my glasses slightly in an effort to read the Latin calligraphy on it. I've never studied Latin but I knew what it said: Dues Paid .

The Math Department had reserved all the seats in rows 8 to 10.

At my far left on the 8th row sat Dr. Wissenschlaf, balancing his stomach and burping. The seats from the right of him to the center held over a dozen graduate students. The rest of the faculty was distributed across row 9, with undergraduates filling up the 10th. On an aisle seat to my right on row 9, I made out Bob Boolean, nervously consulting his watch, even shaking it to make sure it was working. In a few minutes he would be coming down to make the introductory speech.

#493...

I was surprised to see Dr. Hans Mengenlehre sitting totally apart from the math contingent down on the second row. He was thinner than I'd remembered him , worn out and bearing the marks of premature aging. Yet somehow he seemed happier than I'd remembered him as being back in the 40's and 50's. Perhaps he'd never really felt comfortable with the life of a full time mathematician, preferring the rude buffeting of politics, however inept he was at coping with it. Hans was engrossed in an earnest discussion with someone to his left, whom I soon identified as Stanislaus Weakbladder, of all people. My impression of Weakbladder was that he'd grown fat with ignorance. They appeared to be comparing notes, probably about me.

Up until the last minute when the doors were closed, there was a continuous trickle of representatives of the greater academic community. One needed little more than the strains of Pomp and Circumstance , mortarboard hats and their colorful bird costumes to be witness to a bonafide graduation ceremony .

Shining from the middle of the auditorium was Harry Malakoff's good-natured and ribbing mug. In widely separated locations I identified Fred Elsasser, Stannard dv H.M. and Jerome Fuzz.

Suddenly, trembling and virtually paralyzed with fear, my eyes made contact with the pig-face of Dr. Jan van Clees. He was seated high up in shadows at the back, all 300 pounds of him quivering with rage. In my state of panic I

briefly considered canceling the lecture and making myself scarce. Instead I walked quickly to the bathroom behind the stage. Opening a spigot at full force I splashed cold water in my face. It was time to face up to my historical destiny. Smoothing the creases in my smock, tidying up my hair, and with a weary sigh I readied myself for the inevitable.

Braver men than I had quailed at the thought of facing such a rabble - a contradiction in terms - for by facing them was I not braver than they : these hypothetical brave men that is? Then again, what is bravery? Is it an instinct, transmitted through genetic channels from generation to generation? Does it exist throughout the animal kingdom or is it a purely human quality, impossible to formulate without introducing elements of intellect, self-introspection and foresight? There was only one way to find out, and that was to go in there, submit to the ordeal, then generalize afterwards on the basis of the outcome. That final issue disposed of, I stepped boldly into the auditorium.

A deafening mixture of hooting and applause erupted across the room. Booing and clapping in about equal proportions engulfed an already charged atmosphere. Like the fluids in a living body, even the sewage, gas, water, oil and electricity coursing through pipes and wires in the walls, quickened their pace, harried along by the ear-splitting Pandemonium. The noise from the squeals of choruses of children was comparable to that created by the hysteria at a Beatle's concert.

#495...

Down in the front rows, the bearded sages stomped their feet and smacked their withers. Jan van Clees had pulled himself to a standing position and was shaking a fist at me and cursing. Behind him I could barely make out 6 attendants holding a strait jacket and chains. Wiegenlied Wissenschlaf was seized with an asthmatic attack. His wife had him carried out and he spent the next week in the hospital.

Transported with joy, Mom was singing. It was her favorite song : "When the moon comes over the mountain " . The conclave of families on both sides who, through generations of love and toil had sweated me out of her loins rained down tumultuous Hosannas falling on my head much like the droplets of oil over the matted hair of David the Psalmist.

There were some students and faculty members from Biology and Philosophy grouped respectively at the right and left of the upper the auditorium. I was surprised that so many would choose to attend, if only to jeer. A combination of curiosity, and the desire to hear what I was saying so that they could later repudiate all association with me must have motivated their decision. Spontaneously and in unison, they unleashed a torrent of invective and ridicule which, in transit to its intended target was obliged to pass over the heads of members of my family. The divergence of reactions depended on which side of the family was involved.

#496...

My father's relations endured the intemperate abuse with the stoic fortitude which has ensured the survival of the Jewish people through centuries of persecution. It did not however meet with a friendly reception in the ears of my mother's tribe, in whose veins there has always coursed more coal than blood. Within moments I was witness to uncles and cousins piling over the backs of their chairs to bloody the noses of the grad students.

A short muscular miner - I think he was a second cousin - yanked a pair of biochemists up by their ears, dragged them up the aisle and dropped them in the outer lobby . A handful of research biologists tried to zap their assailants with electric probes: why they should have brought electric shock machinery to my lecture with them remains a mystery . Perhaps they'd intended to teach me a lesson after it was over. The one Nobel Prize winner in the Biology department had his nose broken by a drunk pug-ugly related to me through a collateral Polish branch. I discerned the shape of a logician smacking the tousled head of a brawny kinsman with Volume 1 of Russell and Whitehead's Principia . Mom had fainted dead away . Mabuse was laughing.

Hans Mengenlehre stood up suddenly. When he realized that things had gone out of control he snapped his fingers , and an entourage of half a dozen personal bodyguards from the Atlantic City Mafia were dispatched through the aisles to restore order with blackjacks and fists .

Spectators were escaping in a wild scramble out the doors of the auditorium, only to be arrested by a squadron of police surging into the building to overpower Dr. Mengenlehre and his thugs.

At the peak of the excitement I ducked into one of the actors' dressing rooms behind the stage and covered my head with a blanket. After half an hour the storm died down and Bob Boolean came back to get me. His arm around my shoulders Bob led me back into the auditorium to a chair to the right of the podium. About two-thirds of the original audience still remained, generating a restrained chorus of applause. Among them were my close family, the senior academics, most of my friends and, alas! too many of my enemies.

Bob Boolean and I shook hands. Then he stepped up to the podium. Following a few timid taps on the microphone he began speaking:

"Welcome, each and everyone of you. Welcome to this auspicious occasion!" The outline of his speech was spread onto the lectern :

"The fame of Aleph Randal McNaughton Cantor can serve as its own introduction, and I have little to add to it. We have observed steady growth: from the dazzling achievements of his teens to the major results which he will be presenting this evening. Growth in perspective; in command; in discipline; in mastery; in confidence; in insight; in ... in.. "- a short embarrassed pause ensued ,

occasioned by the discovery that he'd run out of adjectives - " in every virtue with which, of necessity, a scientist of the first rank must be endowed.

" Aleph has never hid his light under a bushel , nor should we expect that he will do so now. As we all know, the irresistible advance of the scientific enterprise is being continually jump-started , renovated, revised - er, fueled by the -uh - spontaneous appearance of - er - well -paradigms! " the discovery of le mot juste had galvanized him , " That's it: paradigms. Well - damn it! If Aleph McNaughton Cantor isn't a paradigm, I demand that you show me someone who is! "

Mabuse started to stand up but Clorinda Wales pulled him back into his seat:

" I've had my eye on Aleph since his arrival here in 1948, when his dazzling intellect forced us all into the shade! Why, he was little more than a juvenile, still in knickers and sneakers, his chubby red cheeks aflame with the eager naiveté of youth , with a twisted smart-alecky smile tempered - all too soon - by the school of life.

"As I've said I've watched him every minute of the way. Ladies and gentlemen, it has been an amazing, and I mean truly amazing saga of growth to maturity , a chronicle of triumph over adversity, a bittersweet parable to pass along from generation to generation, to be related in school and at home, a veritable tribute to the human spirit.

" Before I turn the microphone over to him - I know you're all waiting for me to get it over with so you can hear from him - I want to share this little anecdote with you. It tells you a little bit about the remarkable qualities of the person you see in front of you today.

"It must have been around 1954. There was an Assistant Professor in our department who was anxiously awaiting tenure in the following term. Up to then he'd done nothing remarkable, yet in recent months he'd come up with discoveries that could be considered of the first order ... or water ... whatever. The paper containing the results for which he is best known had already been accepted for publication that summer by the Annals of Mathematics.

"Hans Mengenlehre had already told him - you saw him being carted away by the police a few minutes ago - that he'd been nominated for tenure starting the following term; in those days this was a guarantee that he would be getting it.

"One afternoon Aleph came to this individual's office, and asked if he could see a copy of the article he'd submitted to the Annals. Aleph took it home with him, promising to return it in a week.

"In fact he was back the next morning. He'd stayed up all night to re-read it three times. While walking along the corridor to this man's office, Aleph had found an error in the last paragraph of the demonstration of the main theorem. A

tiny mistake , he said: so inconsequential that he hadn't even wanted to mention it.

"Well, this mathematician reviewed his paper, examined the error and began making calculations. Within the space of an hour he'd witnessed the shattering - into ruins! - of the entire edifice on which his results had been founded.

"The publication in the Annals had to be canceled immediately. It took this man two years to repair the damage! His tenure was put on hold pending the outcome of his labors- no small matter for someone with a wife and child, and another one on the way.

"I would ask you all to consider this as a tribute to the greatness of Aleph McNaughton Cantor. So deep was his commitment to truth that he didn't give a damn if he created a life-long enemy by showing off how much he knew! "
Bob's voice had risen to a shrill snarl:

"Ladies and gentlemen: I am that very man! But let me assure you that I'm still as proud of little Aleph today as I've ever been. Enough with the introductions !! Let's listen to the ideas of Aleph Randal McNaughton Cantor in his own words!"

Bob Boolean walked off the stage to ringing applause , the look on his face so grim that I've never forgotten it. A spotlight beamed directly into my eyes as I stepped up to the podium. I adjusted my tie:

#501...

" Ladies and gentlemen. " The beginning sounded wrong, somehow off-key; I ploughed ahead:

"Members of my beloved family, distinguished professors, learned colleagues and co-workers, all-too-forgiving friends, tolerated sycophants, idle curiosity-seekers and other idlers , hecklers, bystanders, witnesses with grievances, hostile critics and sworn enemies! Why not be frank about it: the whole kit-and-kaboodle! As your devoted servant, I Aleph McNaughton Cantor , am deeply cognizant of the honor of being permitted to address all of you this afternoon. "

I reached under the podium and pressed a button: "This will only take a minute."

A bell rang in the room behind the closed panel of metal doors to my right. They opened from the inside to reveal a sizable storage room holding hydraulic fork-lifts, small trucks and dollies, and specialized vehicles for moving stage furniture and equipment .The 6 janitors sitting about them had been patiently waiting for 2 hours. All of the freight vehicles were laden with cages holding monkeys of several species. One by one they were wheeled into the auditorium and their cargo deposited at the foot of the podium.

At the sight of these ingratiating furry creatures high-pitched squeals broke from the delighted throats of brats on both sides of the family. Once again Bob Boolean and I were close to panic: was a new crisis about to erupt ? By the time

the last cage had been deposited their parents had managed to get the children under control.

30 tiny and sprightly Tarsus monkeys, none more than 6 inches in height, leapt about in their cages. These were lifted on hooks above the blackboards to the right and left by means of ropes descending from the vaulted ceiling.

A 5-foot Urang-Otang was hauled up until it dangled close to the rafters in the empty space between the boards. This brought it at eye-level with Jan van Clees as the back of the auditorium. I observed each of them showing signs of extreme discomfort at the sight of the other.

A few cages holding Gibbon apes were set down on narrow trestles laid down on the floor to my left. Scratching and barking they executed their bizarre and comical gestures for the benefit of the on-lookers. A thoroughly discountenanced Fraulein Zwicky buried her head in her hands and moaned.

Succumbing to a rash impulse I directed that the cage holding the small gorilla be dumped directly in front of the wriggling figure of Dr. Mabuse. It was unavoidable that two beings of such supreme ugliness would regard one another as mirror images. The fight started when Mabuse tried to frighten the gorilla by making grotesque and lewd faces. In response it drew itself up at full height against the bars of its cage, scratched its frizzled chest and roared with anger. Mabuse lost his cool, as one might expect. He stood up , waddled over to the cage, and began wacking the gorilla

with his cane. Weeping in pain the poor creature limped pathetically around his cell as Mabuse, smug and smiling with vindication, turned around to return to his seat. He'd not gone very far before he found himself, to the accompaniment of raucous cries of glee, covered with many small patties of gorilla shit.

" Don't do that!", I scolded the gorilla , " This is a respectable place! This is a great university!"

Affected a great show of disdain, Mabuse slowly wiped the offending substance off his laboratory smock. He wasn't the least upset: it was after all his natural element. After he'd returned to his seat I warned the two of them to cut it out or they would have to leave.

The baboon was strategically placed right in front of Dr. Baumknuppel. My baboon was very intelligent; I knew that because I'd spent 6 months shopping around for it. The baboon interpreted my decision to expose it to the company of Baumknuppel for an hour or so as an insult. It bared its teeth at him, slapped its backside and screamed. The effect woke Dr. Baumknuppel up. At first he observed the baboon closely; then he winked:

" Dot ist fery interesting." he said, " I read about dis case from Krafft-Ebbing". As lowered his head back onto his chest the fingers of both hands kept endlessly repeating the universal "pissamashame" gesture. A dozen bananas were needed to pacify the baboon.

#504...

Eight cages holding two chimpanzees each were placed on both sides of the podium and facing the audience. Acting in concert as one monkey, all 16 took one look at the audience, turned away, covered their eyes and squatted. For the rest of the evening they exhibited nothing but their eiderdown asses.

All this activity could not go unremarked. The commotion, broken from time to time by sharp peals of laughter or gasps of astonishment, had risen steadily, and I had to rap a blackboard pointer on the lectern several times to command the public attention.

While waiting for everyone to quiet down I stepped to one side, gauging the effect of my display. Everything had been arranged to my complete satisfaction. My heart swelled with pride. Here one beheld monkeys and humans, distant branches of the same primate tree, eyeing one another perhaps with curiosity, suspicion and fear, awaiting the revelation from me that would alter their mutual relationship for the rest of their term on earth.

Gamboling about me before representatives of the accumulated wisdom of Western Civilization , I'd placed creatures from all walks of monkey life. They and I were linked together hand in hand, determined to melt the blinders of ignorance, open the floodgates of light and usher forth the blessed revelation of truth to all who hungered for salvation.

#505...

I picked up a piece of chalk and walked over to the blackboard on my right. At the bottom of the slate, near its middle, I wrote the words "Animal Kingdom". Above that, about one-third of the way up, the word "Primates". These categories were connected with a vertical arrow with its head on the upper end.

Then arrows were drawn branching to the left and right. Above the left arrow head I wrote "Monkeys"; above the right, "Humans".

Horizontally from "Monkeys" to Humans" I drew a thick line with a particularly large wedge-shaped arrow head to the right. Above the arrow I wrote, in capital letters: **THE GRADIENT**.

Unhappily the scritching of my piece of chalk against the slate had triggered an infernal yowling in all the cages. There was nothing to be done for it apart from mumbling

apologies over and over again like an obsequious servant. I hastened to finish up, then walked back to the lectern.

Stepping up to the podium I spoke once more into the microphone.

" Distinguished friends! Learned colleagues! "

Once more it developed that it wasn't going to be easy. Just about then the Urang-Otang reached high up in the rafters for a bit of loose wiring, yanked it down and began chomping on it. There was a hiss, a dense cloud of smoke, and the auditorium was plunged in darkness. Luckily the animal itself was unhurt. Another delay of half an hour ensued while janitors and technicians carried in lanterns and lamps. A flashlight was handed over to me so I could continue reading my notes. After thanking everyone in the audience for bearing with me through every conceivable difficulty, I reminded them that a theater company with its crew was expected to arrive within the hour. This obliged me to make a considerable truncation of my intended presentation That was not altogether a bad thing however, given that the gist of what I had to say was briefly told.

Once again I lifted up the sheet of typescript close to my face:

" Distinguished friends! Learned colleagues! Beloved family ! It has been my good fortune to be the one to first discover that the Biological Sciences have grievously erred, these past hundred years, in obstinately placing the

arrowhead of the Gradient of Evolution on the wrong end of the shaft!! "

I raced back to the blackboard, using the sleeve of my smock to quickly rub out the thick triangular wedge to the right of the gradient then built another one at the left , grazing the top of the word "Monkeys":

An evil shriek ripped through the auditorium : Cyrus Yaw-Yawn's mother was having her last epileptic seizure. Bob Boolean's face was lowered and crushed between his hands; he was crying. Students from every department were throwing things at me, umbrellas, books, shoes. Boos, howls and other forms of execration rained down from all directions.

Dr. Jan van Clees had jumped out of his seat. Rollicking with malicious glee, he went about ordering his crew of attendants to hurry down the aisles and kidnap me. Once

again I would have to make a run for my life. By the time they had descended to the center of the auditorium they were grappling with the students and faculty of Mathematics, united in their determination to keep them from capturing me.

As Mom gazed winsomely at some indistinct place at the top of the proscenium arch above the stage, petrified by the inexorable Will of God, President Hardball leaned over to her and , his face bearing a look of gratification for which he was scarcely to be blamed, gingerly lifted the diploma out of her lifeless hands and tore it in two.

All hell broke loose as I ran out the back exit.

THE END